THE JOURNAL

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

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DIAGNOSIS AND TREATMENT OF COMMON SKIN DISEASES OF CHILDHOOD*

CLARK W. FINNERUD, M.D.†
CHICAGO

Aside from the exanthematous fevers, syphilis, and birth-marks, probably the most important and common dermatoses of infancy and childhood are impetigo, scabies, ringworm, seborrheic dermatitis and eczema. To this list might well be added lichen urticatus and perleché, because, though not ordinarily recognized as such, they are commonly encountered. About half of the above group are of infectious origin. The list of cutaneous disorders affecting infants and children comprises many important diseases, but fortunately most of them are rare. Certain common ones, such as intertrigo, prickly heat, pediculosis, warts, etc., are of so little importance as scarcely here to require mention.

IMPETIGO CONTAGIOSA

Impetigo, a disorder practically devoid of subjective symptoms, is essentially a disease of childhood. The lesions occur, for the most part, on the exposed parts of the body, the hands and face. Although not contagious, as implied by its name, it is highly infectious. When one child of a family has it, unless treatment is instituted promptly, usually several or all of the children become affected.

*Read before the Michigan State Medical Society, Benton Harbor, September, 1930.

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Impetigo contagiosa is due to bacteria, streptococci chiefly, which presumably are present to some extent normally on the skin of all of us. They gain access into the skin at the site of an abrasion, such as might occur from a scratch, a cut, or picking the face with dirty fingernails, or the disorder may occur secondarily to a "running" nose or ear. It spreads rapidly, several or many lesions being present within a few days after the disorder is contracted. It may be transmitted from one individual to another from the use of a common towel or washcloth and by all forms of intimate contact.

The lesions are usually split-pea to coin sized, serous crusted, discoid, more rarely circinate, plaques. The crust is ordinarily larger than the underlying inflamed area; that is, it overlaps the true lesion. It is best described as being of "stuck on" appearance. In the average case there are less than a dozen lesions present.

In infants, this eruption is not uncommonly a bullous one and is, therefore, properly spoken of as *bullous impetigo* and improperly referred to as "pemphigus neonatorum." The latter name is to be condemned, in that the disorder is in no way to be considered a form of pemphigus. Bullous impetigo sometimes spreads through a hospital ward rapidly, many or all of the infants becoming afflicted, and in some instances it is responsible for a fatal termination.

In children and adults rarely, if ever, do serious consequences occur, and certainly never in properly treated cases.

Impetigo in rare instances may be confused with herpes simplex, ecthyma, pustular eczema and ringworm.

Extralabial herpes simplex begins as a group of papulovesicles in an infiltrated and sensitive area and the lesions usually remain but one or two in number, clearing spontaneously in the course of about a week. Often there is history of similar lesions having occurred in the same area.

Pustular eczema occurs in larger patches and usually is much more extensive, affecting largely the face, scalp and the folds of the flexor surfaces of the extremities, infiltration, weeping and itching being outstanding characteristics.

Ecthyma, similar as it is to impetigo, is a much more formidable process, the lesions being larger, deeper-seated, and with a reddened infiltrated areola.

Ringworm, particularly as it affects the glaborous skin, is sometimes confused with impetigo. It is necessary in such an instance to examine scrapings of the lesion in hydroxid, a procedure which takes but a couple of minutes, and if it is ringworm the fungi will be readily demonstrable when the preparation is examined under the high dry power of the microscope. The technic of this extemporaneous examination follows, and it is applicable for practically all fungi that affect the skin, hair or nails, as well as for cutaneous parasites. The scale, hair, nail-scrapings, vesicle-roof, or papule is transferred to a clean glass slide and a cover-glass is applied. Two or three drops of ten per cent to twenty per cent sodium or potassium hydroxid are allowed to run in under the cover-glass, and the specimen is then heated gently for a few seconds. This minimizes the appearance of the cutaneous cells, in case it does not disintegrate them altogether, and leaves the highly refractile yeasts, true fungi, and parasites and their ova outstanding. This method of examination should be routinely employed in the diagnosis of scabies and all types of ringworm, and it is indispensable in the diagnosis of certain other cutaneous affections, such as blastomycosis and actinomycosis.

Impetigo of the bearded region of adult males, commonly contracted in barber-shops, is usually diagnosed "barber's itch." This is a mistake, as "barber's-itch" is ringworm of the beard, a very rare disorder and one usually seen in farmers, the result of attending infected cattle.

The mercury group, properly employed, is the treatment of choice in cases of impetigo. The parts should be bathed morning and evening for about ten minutes with a warm solution of mercury bichlorid, this varying from 1:2000 to 1:5000 in strength. Following the bathing in the morning a calomel dusting powder of about 12 per cent strength should be applied, this to be left on during the day. The formula for such a powder would be: Mild chlorid of mercury, 4 grams; boric acid, 4 grams; and equal parts of starch and talc to make 30 grams. Following the bathing at night, an ointment containing from 3 to 6 per cent of white precipitate should be used, this to be left on over night. In case the inflammatory element is particularly marked, which is not usually the case, it is best to combine the

white precipitate with a naftalan ointment of 10 per cent strength. The formula for such an ointment would be: Ammoniated mercury, 1 gram; naftalan, 3 grams; starch and zinc oxid, each 8 grams; and petrolatum sufficient to make 30 grams.

In that there is perhaps one individual in a thousand who is hypersensitive to mercury preparations, in his particular instance it is necessary to stop the mercurial preparations and to use such a treatment as potassium permanganate bathing of the parts followed by rather mild sulphur preparations.

The above measures will manage practically any case of impetigo within five to ten days, it rarely being necessary for the individual to make a second visit.

SCABIES

Scabies is caused by an animal parasite, the *Acarus scabiei,* which burrows in the topmost layer of the skin. The organism is of much the same appearance as a louse, but much smaller, being scarcely visible to the naked eye.

Almost invariably the itching is worse at night, after the body has become warm in bed. Considerable itching is often experienced during the day, however, when the body has become warm from exertion, from exposure to an overheated room, or from the wearing of excessive clothing. Usually there are innumerable parasites present before the afflicted individual is well aware of the fact that he has a skin disease. If one member of a family is affected, usually several or all of them are. Most commonly the disorder is contracted through occupying a bed with an infected individual. The sites of predilection are the trunk and extremities, there being no sign of it above the collar bone or below the ankles, except in infants. The most typical lesions are seen between the fingers and on the wrists, and here they exist as about match-head sized vesicopapules, on the surface of some of which are seen a delicate, black, thread-like, straight or curved line which varies from an eighth to a quarter of an inch or more in length. These lines are the visible paths of the parasite in the skin and consist of a furrow filled with dirt, eggs, and excrement of the organism. Usually there are a dozen or more eggs in each furrow, and at one end of it is the parasite. The eggs give rise to new parasites which crawl out onto the surface of the skin. Here the females, which are the only ones that burrow, are fertilized, the males remaining on the surface. The female perishes after burrowing and laying her eggs. On regions other than the hands, wrists, genitals, and buttocks the lesions exist chiefly as papular excoriations about the size of a pin's head, lesions which can hardly be recognized as those of scabies, at least without microscopic examination.

In every case of suspected scabies, the organisms or the ova should be demonstrated under the microscope, by way of clinching the diagnosis, this even in the presence of rather definite clinical history and findings. This is done by slicing off the top of a lesion, putting it on a glass slide, applying a cover-glass, and allowing two or three drops of 10 to 20 per cent sodium or potassium hydroxid to run under the cover-glass. After gently heating such a preparation, microscopic examination will reveal a parasite or its ova, or both, in case one is dealing with scabies.

Scabies need be differentiated chiefly from pediculosis corporis, pruritus hiemalis and eczema. Pediculosis manifests itself as papular excoriations of the trunk and extremities combined with linear scratch-marks on the parts easily accessible to the hands. The itching is worse during the day. The organisms may be found in the underwear, particularly in the seams, and the ova attached to body hairs.

Pruritus hiemalis occurs on the legs, thighs and forearms chiefly, the genital region and hands being free. There is no initial eruption in this disorder, the skin changes, aside from dryness, being merely the result of scratching; in other words, a traumatic dermatitis. The itching occurs upon disrobing, when the cool air strikes the skin, rather than after retiring.

Eczema is readily differentiated from scabies by the presence of infiltrated patches, whereas in scabies the lesions are discrete.

Probably the best treatment is the old-fashioned sulphur treatment, which consists of applying a sulphur salve for five successive nights. After taking a scrub-bath the infected individual should apply the salve from the neck to the ankles, including the hands. A suit of underwear with long sleeves and legs should be worn continuously night and day, it becoming permeated with the sulphur, and thin cotton gloves should be worn at night. On the morning following the fifth application of the salve a cleansing bath is taken and clean clothing put on.

Some itching may persist, but it is due to irritation of the skin by the sulphur. This ordinarily is allayed by a few daily applications of olive oil. For infants and young children a 5 to 7 per cent sulphur ointment is used; for middle-aged children a 10 per cent ointment is employed; and for adults one of 15 per cent strength. The sulphur should be put up in ungt. petrolatum to which about 20 to 25 per cent of lard has been added. Another sulphur preparation, one of rather complicated formula, known as the Danish ointment, constitutes a fairly satisfactory remedy for this disease, its greatest advantage being the fact that supposedly but a single application of it is necessary. Having seen many recurrences of the disorder from a single application of it, however, it has been found advisable to use it for two successive nights, by which procedure it is effective, though more irritating to the skin than is the former preparation.

RINGWORM

Ringworm of the Scalp.—Ringworm is a disease of the skin, hair, and nails which is produced by numerous varieties of parasites belonging to the large group of fungi. In children, ringworm is seen chiefly in the scalp, and practically all the cases of ringworm of the scalp are in children. There are three general varieties of ringworm in this area. The organism most commonly responsible for the disorder is the *Microsporon audouini,* and in fresh sodium or potassium hydroxid preparations is seen the hair stump so thickly surrounded by small spores as to give it the appearance of a mosaic. About 95 per cent of the cases of ringworm of the scalp are of this type. The disorder is highly infectious, as is illustrated by the fact that if one child of a family has it, usually several or all of them contract it. There are few or no subjective symptoms, and the disorder disappears spontaneously, for some unknown reason, at the age of puberty.

This type of ringworm begins as one or more patches in which the hairs appear to be nibbled off a few millimeters above the level of the scalp. These patches gradually enlarge and fuse, not uncommonly to such an extent as to involve practically the entire scalp. Ordinarily, however, there are present from three to a dozen such patches. Many of the hair stumps have a whitish sheath about them, and the patch in general has the appearance of having been strewn with ashes, this grayish appearance being due to a fine scaling in the area. There is usually no redness or other sign of inflammation of the underlying scalp. Permanent baldness does not result from this type of ringworm.

The next most common type of ringworm of the scalp is called "kerion" and, unlike that just described, is moist. Although it is seen most commonly in children, it sometimes occurs in adults. This variety is usually contracted from playing with animals that are infected with the causative organism, most commonly dogs and cats. This variety constitutes only about three per cent of the cases of ringworm of the scalp. Apparently it is not so infectious as the type previously described, but the infected child should not be allowed to attend school until he can be pronounced non-infectious. This type usually occurs as from one to three or four swellings, varying in size from that of a hazelnut to that of a hen's egg. The swellings are somewhat tender. Not uncommonly the lymph glands of the neck are slightly enlarged. The lesions of the scalp are soft and feel as though, upon puncture, pus would be evacuated, but they do not contain pus. The hairs in the area are usually broken off at various lengths, and the inflammation present pushes these hairs from their follicles in the course of a few days or weeks. From the gaping follicle mouths a colorless, syrupy fluid exudes. Any hairs in the area can be pulled out like pins from a pin-cushion. After a variable period of time, usually several weeks, the disorder clears up spontaneously, but proper treatment hastens the disappearance of the lesions and prevents the spread of the infection to other parts of the scalp and to persons with whom the affected individual is associated. Scarring, with baldness, usually results from this type of ringworm.

The spread of the infection is prevented and the duration of the disorder is lessened if a ten to fifteen per cent sulphur or white precipitate ointment is used on the lesions morning and evening, and applied to the entire scalp once weekly.

A third type of ringworm of the scalp, the rarest type, occurs as black dots, the size of a pin-head or smaller, scattered over the scalp. Ordinarily, it can be detected only by the expert eye, although sometimes it is first noticed by the observant mother or attendant when she is shampooing the child's hair.

It causes very little loss of hair and is responsible for no irritation. This type, like the first described, is of human origin. The black dots mentioned may be seen even in individuals with light hair. They are produced by the growth of a single hair curled upon itself beneath a small transparent scale. No scarring results.

So far as the treatment of the first and last mentioned varieties is concerned, local treatment in the form of ointments and lotions is effective in something less than 50 per cent of the cases. The ointments commonly used are strong salicylic acid preparations, such as the so-called "Whitfield ointment," which contains six per cent salicylic acid and twelve per cent benzoic acid in petrolatum, or an ointment containing twelve per cent of iodin crystals in goose grease, these preparations to be rubbed into the patches nightly.

In case the individual does not respond satisfactorily to these or similar simple local measures, it may be necessary to produce complete epilation of the scalp either by means of the X-ray or by the ingestion of thallium acetate. Neither one of these measures is without danger, and they should not be resorted to if the child is near the age of puberty, in which case it is best that he be allowed to outgrow the disorder. The dosage of thallium acetate must be measured extremely accurately, according to the weight of the individual. It is given in a single dose by mouth. The hair falls in between two and three weeks after the drug has been administered and begins to return in the course of about three months. X-ray epilation of the scalp hair should be carried out only by one skilled in this procedure, by way of avoiding, to as great an extent as possible, the dangers which may arise from improper X-ray administration.

Ringworm of the Body.—Ringworm of the body usually occurs as from one to a dozen red rings varying in size from a half-inch to an inch and one-half in diameter. In the beginning the lesions are usually solid discs, but within a few days after their appearance they clear in the center, thus forming a circle. The lesions may be of the dry type, there being only redness and scaling, or they may be of the moist type, in which case there are small vesicles at the outer edge of the ring, the vesicles later becoming small crusts. One type occurs with about the same frequency as the other, and in any given instance the lesions are entirely of one type. There are itching and other sensations, but they are usually mild. Ringworm of the body is commonly, but not always, contracted from the handling of cats, dogs, and other pets whose hairs are infected with the fungi. If there are several children in the family, usually more than one is affected and not uncommonly the mother or nurse also. This type of ringworm responds readily to proper local preparations, the so-called Whitfield ointment usually proving effective.

Ringworm of the Hands, Feet, Crotch, and Armpits.—Ringworm of the hands and feet is deserving of separate description, because it has certain characteristics not seen in the other types of ringworm of the body. It is most often contracted from walking barefoot on floors infected with the causative organism, notably those in shower rooms and gymnasiums. Usually this variety begins between and under the toes as an itching, fissuring, and maceration of the skin. Later, vesicles usually appear on the soles and sides of the feet. These vesicles are deep-seated; they tend not to rupture spontaneously but to dry up and leave brownish keratoses at their sites. The disorder is almost invariably worse in hot weather. Itching is usually periodically intense, and, as a result of scratching the feet, the individual transfers the organisms to the other parts of the body on which they will grow. It is a peculiar fact that the organism usually will grow readily only on the feet, hands, crotch, and armpits. The eruption seen on the hands frequently is almost identical with that occurring on the feet, but the organisms rarely can be demonstrated in the hand lesions. It is thought, therefore, that the hand eruption is usually a toxic form of dermatitis, the result of absorption from the foci on the feet.

Although ringworm of the feet is not so common in children as in adults, it is, nevertheless, not infrequently encountered.

Ringworm occurs in the crotch and armpits as diffuse, red, scaling areas which itch intensely and have the appearance of irritation produced by chafing. As it occurs in these areas, it is the disorder referred to as eczema marginatum or "gymnasium itch."

In spite of the fact that ringworm in its various forms may simulate a good many disorders, an accurate diagnosis of it can al-

ways be made by means of the hydroxid examination described above.

Fortunately, ringworm of the hands, feet, crotch, and armpits is usually easily remedied, a fifty per cent to full strength Whitfield ointment usually managing it successfully within one to three weeks. Chrysarobin in five to ten per cent strength in petrolatum or traumaticin is also serviceable, but it should be used only until it has set up an inflammatory reaction, usually five to ten days, at which time a soothing ointment such as Lassar paste (U.S.P.) or zinc oxid ointment (U.S.P.) should be substituted for it. The chief drawback, so far as chrysarobin is concerned, is the fact that it stains badly.

LICHEN URTICATUS

Lichen urticatus is a form of urticaria which is peculiar to infants and children, and which ordinarily disappears spontaneously at the age of puberty. Its cause is unknown. It is characterized by repeated exacerbations, periods of quiescence, and relapses. These cases seem to be more numerous and more severe during the warmer months. The lesions occur chiefly on the trunk and extremities, evidence of the disorder for some reason very rarely being observed on the exposed portions of the body. For the most part, the lesions make their appearance during the night. They consist primarily of match-head to pea-sized wheals, not unlike a mosquito-bite in appearance, in the center of each of which a minute papule or vesicopapule forms. Because of the severe itching the child scratches this new lesion, thus excoriating the papulovesicle, and a small crust forms at the site. The urticarial lesion disappears within an hour or two, so that all that remains at the site is a papular excoriation. Therefore, when the patient is examined during the day, one simply sees blood-crusted, papular excoriations disseminated over the trunk and extremities, although there may still exist around some of these lesions a pinkish areola representing the site of the former wheal. Not uncommonly, marked dermographism can be demonstrated in these patients by drawing the finger nail or an applicator across the skin in any place.

Lichen urticatus must be differentiated chiefly from scabies. In scabies there usually is a history of other members of the family being similarly affected, and there are characteristic lesions in that disorder from which the organism and its ova can be readily and practically invariably demonstrated. It has been said that prurigo sometimes requires differentiation from lichen urticatus, but the similarity is rather far fetched, prurigo being more like papular eczema. Prurigo, though seen rather commonly in Austria and other European countries, is an extremely rare cutaneous disorder in this country.

The treatment of lichen urticatus is far from satisfactory, but these patients can be given considerable relief during their attacks and can be assured that they will recover from the disorder eventually. Internally, sodium bicarbonate in three to ten grain doses in syrup of rhubarb, given after meals, is probably most often of service. Locally, antipruritic lotions and ointments are indicated, one of the most serviceable of which is a lotion composed of equal parts of black wash and olive oil, to which has been added 15 c.c. of liquor carbonis detergens to the eight ounce mixture, this to be applied as necessary for irritation.

ECZEMA

Eczema is a chronic inflammatory disease of the skin which affects persons of all ages and is particularly common in infants and young children. Until recently it was considered the most common skin disorder. Many disorders which previously were diagnosed as eczema are no longer so classified. More and more has been learned about the causes of these various eruptions, and at the present time there remains very little to represent the term eczema. Some authors even class this as "sensitization dermatitis," thus entirely disposing of it.

Eczema is non-infectious and is produced by both external and internal agents in an individual whose skin is sensitized to these agents. Very little is known concerning the internal factors of most importance which are capable of producing eczema. Eczema, therefore, is a form of sensitization dermatitis, and in any given case one might also find that there is a history of the individual having other sensitization disorders, such as asthma, hay fever, and hives. Foods of all kinds, carbohydrates and fats as well as proteins, may be important causative factors. Not uncommonly a mother observes that her child's condition is aggravated by the eating of eggs, or foods containing eggs, or other

foods, but usually it remains for the physician to make such a discovery. Although a physician can ascertain by skin tests the foods to which the individual is sensitive, the elimination of these from the diet often does not remedy the trouble. The disorder is by no means entirely due to food sensitization, as it is too generally regarded to be.

Eczema in infants and children occurs as a redness, scaling, swelling, and crusting in large, ill-defined areas. It usually affects most markedly the face, the neck, the front surfaces of the upper extremities, and the back surfaces of the lower extremities. A particularly common site is the bend of the elbows and knees. However, any and all surfaces of the body are susceptible to it, and there are all grades of severity. Vesication, pustulation and papulation may be present in varying degrees. Itching is a very prominent and distressing symptom. The disorder usually begins within the first few weeks of life, and in a large percentage of the cases, either because of treatment or in spite of it, clears up permanently by the time the child is a few months or a few years old. In a small percentage of the cases, however, perhaps ten per cent, the individual is troubled to some degree for many years, or throughout life, although the eruption tends to be more or less periodic.

The care of the general health of a patient with eczema is of importance. So far as diet is concerned, carbohydrates and fats should be limited. Any articles of diet which can be demonstrated practically, rather than by positive cutaneous tests alone, to be contributing factors, should be avoided.

Although arsenic in the form of Fowler's solution is the drug of choice in the treatment of eczema, it should not be employed in the instance of infants or young children. Infants, particularly if obese, are usually benefited by the taking of calomel, grains one-twentieth to one-tenth, three times daily for periods of two or three weeks. Of service, also, is sodium bicarbonate in three to ten grain dosage, in equal parts of syrup of rhubarb and water, a teaspoonful being given three times daily. In the instance of older children, arsenic may be used, beginning with three drops of Fowler's solution, three times a day, after meals, and gradually increasing up to eight or ten drops. Or it may be desirable to administer the arsenic in the form of the Asiatic pill. This pill can be obtained in dosages from one-sixty-fourth grain of arsenic trioxid up to one-ninth grain. In any instance, when arsenic is being employed the urine should be tested for albumin every two or three weeks by way of determining the presence or absence of any kidney irritation from its use.

There are many local preparations which are serviceable in the treatment of eczema. Chronically infiltrated patches respond best to some of the more stimulating preparations, notably tar. The formula for such an ointment is as follows:

℞:

Crude coal tar	2
Zinc oxid	2
Petrolati qs.	30

Sig. External use.

For routine use, however, and particularly for acute exacerbations, one will usually receive gratifying results from the use of a ten per cent naftalan or a two per cent ichthyol ointment, Lassar's paste being a desirable base. The formulæ for these are as follows:

℞

Ichthyolis (Merck)	2
Amyli pulv.	
Zinc oxid. aa	25
Petrolat. q.s.	100

℞

Naftalan	10
Amyli pulv.	
Zinc oxid. aa	25
Petrolat. q.s.	100

Ointments should be applied continuously to involved areas, a fresh application being made morning and evening, the former application having been cleansed off first with olive oil. Soap and water should be avoided on all involved areas.

So long as the child scratches, the eczema will persist. It is therefore often necessary, particularly with infants and young children, to apply a mask and splints.

Lotions are poor substitutes for ointments in eczema.

One is justified in certain instances, but never in the case of infants, and when the treatment can be carried out by the hands of one versed in treating the skin in this manner, in employing a limited amount of roentgenotherapy on obstinate patches. This is very effective but equally dangerous if not properly done. Ultraviolet irradiation is sometimes of service but is far from dependable. Nonspecific protein therapy often

accomplishes a great deal in the treatment of this disorder, but here again infants must be omitted from such therapy.

SEBORRHEIC DERMATITIS

Seborrheic dermatitis is one of the most common inflammatory skin diseases. It affects all ages but is particularly common in children. While it is probably an infectious disorder, it is not transmitted from one individual to another. Internal factors, the nature of which often cannot be ascertained, undoubtedly are of importance in many cases.

As it occurs on the scalp, a very common site for it, it resembles what might be considered a severe form of dandruff. There is profuse, flaky scaling and crusting, diffuse or patchy, on an itchy, inflamed scalp. In ordinary dandruff, the underlying scalp is not inflamed. The earliest manifestation of seborrheic dermatitis is often the scaling and crusting of the crown of the head of infants which is known to mothers as the "milk crust" or "cradle cap." Seborrheic dermatitis commonly occurs on the face and in its mildest form resembles what is popularly spoken of as "chapping." Red, scaling patches of various sizes occur on the chin and cheeks, at the angles of the nose, and elsewhere. One of its most common manifestations in children is redness, scaling, weeping, and crusting behind and in the ears. This is usually associated with scaling in the eyebrows, inflammation of the eyelids and particularly of the lid margins, and involvement of other areas to varying degrees. Any area of the body may be affected except the palms of the hands and the soles of the feet; these areas are never involved because they have no sebaceous (fat) glands. The disorder is an inflammation of the fat glands of the skin, presumably associated with an infection of these glands. In various respects it is so much like some forms of eczema that it often cannot be differentiated sharply from it. Hairy areas, as well as surfaces which are in apposition, are much more likely to be involved than is the case with eczema, such as the scalp, pubes, axillæ, and groins. Seborrheic dermatitis is also frequently seen on the chest and back.

One who is subject to seborrheic dermatitis may have it in one form or another at intervals throughout life almost regardless of treatment, but this is not the rule. In other words, while treatment is of definite value, a person afflicted with the disease cannot be assured that he will never again be affected.

The treatment of seborrheic dermatitis is essentially the same as that of eczema. In the scalp and other hairy areas, best response is usually obtained from the use of mild salicylic acid, sulphur, or ammoniated mercury preparations, these being used in two to five per cent strength, put up in a plain grease such as petrolatum or unguentum aqua rosa.

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OBSERVATIONS ON THIOCYANATE THERAPY IN HYPERTENSION

WILLIAM C. EGLOFF, LYMAN H. HOYT and JAMES P. O'HARE, Boston, state that their results with thiocyanate therapy in hypertension, interpreted in the light of conservative control and with due consideration for the disagreeable symptoms produced, were so nearly uniform that they should at least serve as a warning against too great enthusiasm for this drug. Of twenty-five patients only two reacted favorably to the administration of sodium thiocyanate and even in these two the reaction was not particularly striking or different from what is seen in many other patients who have had no treatment whatever. In the remaining twenty-three cases, not only did the drug fail to lower the blood pressure or relieve the symptoms, but it produced very disagreeable side effects.—*Journal A. M. A.*

INTERSTITIAL KERATITIS

In a check-up examination of sixty-seven persons five years after all active symptoms of interstitial keratitis had subsided under intensive antisyphilitic treatment, MAUDE CARVILL, Boston, noted that in twenty-three cases the vision had improved, in thirty-two it had not changed, in nine it was not as good, and in three data were not available. In five of the nine cases in which the vision had failed there were other complications such as cataract, choroidal changes in the macula, glaucoma secondary to marked chorioretinitis of diabetes, exophthalmic goiter, and phlyctenular keratitis. In none of these sixty-seven cases has there been a recurrence of interstitial keratitis during the five years. One patient, however, had a syphilitic iritis; one had a cataract; one had an acute glaucoma secondary to a severe diabetic chorioretinitis, and one had phlyctenular keratitis.—*Journal A. M. A.*

SEPSIS IN INFANCY AND CHILDHOOD*

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CHICAGO

Septic infections occur during every period of life from infancy to senescence. It is the purpose of this paper to give in brief the mechanism of infection and the defense reactions of the organism, particularly as they occur during young life.

Our conceptions concerning sepsis have been continually modified by important advances in immunology and bacteriology. Since the study of bacteriology first began we have gradually learned about the morphology and the action of groups of microörganisms, their virulence, pyogenic properties, their tendency to produce toxins, and their recovery from the blood stream. Numerous fruitful investigations have been made along this line, and an entirely new vista of knowledge has been brought to light.

Almost any pathogenic microörganism, Schottmüller maintains, may be the cause of sepsis. He enumerates a long list, among which may be mentioned streptococcus pyogenes, streptococcus hemolyticus, streptococcus viridans, streptococcus mucosis, pneumococcus, staphylococcus, gonococcus, meningococcus, Friedländer's bacillus, pyocyaneus, typhoid, paratyphoid, and Fränkel's gas bacillus, among others.

We understand by sepsis a general infection of the entire organism without definite or specific visceral changes. The tubercle bacillus produces characteristic changes in the lungs, bones, joints; the typhoid bacillus produces characteristic intestinal ulcers. In septic infections no such characteristic organic lesions prevail. In sepsis there is a primary focus of inflammation from which constantly or periodically bacteria or their toxins are poured into the blood-stream, producing general manifestations which overshadow the local changes in the primary focus. In sepsis the entire organism is involved. We must distinguish sepsis and bacteremia. In the latter condition bacteria may occasionally be recovered from the blood, but there are no deleterious effects. Bacteremia has its source in a focus of infection somewhere in the body, and clinicians have come to believe from actual experience that the presence of bacteria in the circulating blood does not necessarily constitute a diagnosis of sepsis. On the other hand, it may be impossible to recover organisms from the blood in some cases of genuine sepsis. It is thought by many excellent authorities that bacteria do not multiply in the blood during sepsis. The organisms are never so numerous in the blood as might be expected if they multiplied there. After death the bactericidal power of the blood diminishes, and the microörganisms may increase in this medium—the so-called agonal invasion. To repeat, then, what has already been said, the cause of general sepsis is not explained by the multiplication of microörganisms in the blood, but their constant or periodic entrance into the blood stream from a focus of infection. Possibly this explains the occurrence of recurrent attacks of fever, chills, and sweating which we see clinically. It must be assumed that bacteria which gain access to the blood are deposited in other tissues or organs, and it has been demonstrated by various investigators that the first place of localization of bacteria is in the reticulo-endothelial system. If the reticulo-endothelial system does not form an effective barrier, a generalized infection will ensue. As long as the bacteria are limited by this line of defense, no general infection occurs.

We may refer briefly to the subject of virulence of invading organisms. Virulence of an organism is a fluctuating and relative quantity. There seems to be clinical evidence that virulence varies from season to season. Every clinician has observed the variability in the severity of epidemics of influenza, scarlet fever, measles and other infections. Sometimes these epidemics are characterized by their mildness, and at other times by their severity. The medical historian and geographer, Hirsch, has pointed out in his study of scarlet fever, extending over many years, that a cycle of severe manifestations is frequently followed by another cycle milder in character.

A study of septic infections is not only to be considered in the light of the virulence of

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the offending organisms, but also in relation to the response of the defense reaction of the body. As long as this defense mechanism functions effectively, there is no sepsis. Its failure to react adequately leads to generalized infection.

Metchnikoff in 1882 introduced our modern conceptions of immunity by his studies in phagocytosis. Since that time many facts and theories have been elaborated to explain the mechanism by which animals resist infection. Long ago Pettenkofer took the position that the cholera bacillus was only one factor in the causation of Asiatic cholera. He thought that the health of the host and the hygienic conditions under which he lived were equally important. His once famous, though long since forgotten X, Y, Z Theory, based upon his personal observation and critical judgment, has been more or less confirmed in recent times by the more scientific deductions of immunologists and pathologists. To prove his theory, Pettenkofer and his assistant, Emerich, after rendering their stomach contents alkaline, each drank a culture of virulent cholera bacilli. Pettenkofer, then an old man, developed a simple diarrhea. Emerich developed a severe attack of cholera and nearly died. Pettenkofer believed that the validity of his theory was established by this experiment. This theory has been revived and amplified, and the latest views maintain that a major portion of the defense reactions depend on the efficiency of the reticulo-endothelial system. According to Aschoff, the reticulo-endothelial system consists of the reticulum cells of the splenic pulp, the Malpighian corpuscles, the bone marrow, the lymph nodes, and other lymphatic tissues. The cells of the reticulo-endothelial system have great phagocytic power, and experimentally it has been shown that they are able to store up colloids, dyes, metals, bacteria, and cell fragments. Investigators have also pointed out that the reticulo-endothelial system plays an important part in the metabolism of hemoglobin, iron, bile salts, fat, and water. The defensive functions of these cells are of the greatest importance in maintaining the immunity of the organism. Bacteria which are localized in the superficial tissues may be taken up by the histiocytes, and those circulating in the blood are taken up by the Kupfer cells of the liver, so that the blood is rapidly cleared of large quantities of circulating bacteria. If the phagocytes of the reticulo-endothelial system fail to take up the bacteria, the latter continue to swarm in the blood stream, and an overwhelming form of sepsis occurs.

The late Professor Maximow states the problem from a slightly different point of view. He believes that the connective tissue, the so-called mesenchyme, plays a predominant rôle in destroying noxious agents which endanger the normal course of life. He thinks that three cellular systems play a rôle in the defensive reaction against infection: (1) First there are the two kinds of hemocytes, the granular leukocytes and the monocytes. When the hemocytes take up their defensive rôle, leukocytosis is the clinical evidence of their activity. (2) Then there is the endothelium of the blood vessels. Numerous observers maintain that the vascular endothelium participates actively in the general defense reaction against noxious agents. While the function of the vascular endothelium may be important in maintaining or producing immunity, there is no evidence at hand to prove its significance along this line. (3) Finally there is the reticulo-endothelial system. These cells constitute the most important factor in the general defense reactions. Not only do these cells act as phagocytes, but they probably produce enzymes and participate in the formation of antibodies and hemolysins. It has been shown by L. Hektoen that antibody formation resides largely in the hematopoietic system, especially in the liver, bone marrow and spleen. By interfering with the function of these structures the antibody defense is measurably diminished.

J. Ramsay, in a recent publication, presents the hypothesis that successful resistance to bacterial infection depends largely on the orderly response of certain endocrine glands. The sympathicotrophic group, consisting of the thyroid, suprarenals, and pituitary glands and the vagotrophic group, consisting of the parathyroids and pancreas, are said to have an important function in the defense mechanism against infection. He believes that the thyro-parathyroid group regulates the phagocytic properties of the leukocytes in a normal individual. Extirpation of these glands in monkeys produces increased susceptibility to infection. He also attempts to explain the fact that in certain individuals comparatively mild infections may prove fatal without adequate explanation. He thinks such results may be

due to endocrine imbalance and to a lowering of the immunity of the organism. While this view is interesting and suggestive, it is, like many of the present day opinions concerning the function of the endocrine glands, difficult to confirm by clinical or experimental methods.

There is an evident difference in the susceptibility of younger and older individuals to certain infections. Experiment has shown that young animals show a lower resistance to bacterial and protozoan infections than older animals. Neufeld thinks that the greater resistance of older individuals is due to the fact the defensive mechanism is better developed in the mucous membranes and lymphatics. In general, it has been held that the lower immunity of younger individuals may be explained by a number of factors: the poor complement content of the serum, the weak antibody formation, and such non-specific factors as the diminished defensive powers of the mucous membranes and the lymphatics. Every clinician of experience has witnessed the high mortality due to erysipelas in young infants, the severity of scarlet fever, measles, diphtheria and similar infections in babies. These diseases take on a severe form during the infantile period of life and the mortality is unavoidably high.

SEPSIS IN INFANTS DURING THE FIRST THREE MONTHS

The ravages of septic infections among infants which occurred in the pre-antiseptic and pre-aseptic era are practically unknown to the present generation of physicians, though even now the condition occurs perhaps more frequently than is commonly recognized. All infants are particularly susceptible to septic infection, though this is most marked in the premature. This hyper-susceptibility is due to a number of causes: (1) the skin is readily penetrated because of the thinness of the stratum corneum; (2) the mucosa of the stomach and intestine is readily traversed by living organisms; (3) antibodies are less readily formed. Septic infections occur more frequently in artificially fed infants; breast fed infants are protected to a considerable degree by the bactericidal substances in the mother's milk.

There are various portals of entry and modes of infection which are particularly characteristic of sepsis in infancy. (A) Infections in young infants may be hematogenous, as in the case of a mother suffering from an infectious process. The organisms reach the infant's body through the maternal circulation. (B) Aspiration of infected amniotic fluid may be the source of infection. Bacteria may gain access to the amniotic fluid even though the membranes are intact, or after rupture of the membranes. The infant may aspirate the infected fluid and develop an aspiration pneumonia to be followed by a fatal sepsis. In some instances the amniotic fluid, which contains particles of desquamated epithelium, meconium, vernix caseosa and lanugo, may cause an aspiration pneumonia, the organisms invading the respiratory system secondarily.

(C) Umbilical sepsis is due to faulty aseptic technic in the management of the umbilical wound, and is no longer as frequent as formerly. It is estimated that it occurs in about 1 per cent of babies born in large clinics. The infection may be conveyed to an infant from a mother who is suffering from puerperal sepsis.

(D) Infection may occur through the mouth cavity. Streptococcal infection has been observed in infants who developed Bednar's aphthæ. Abrasion of the mucous membrane with subsequent septic infection was not uncommon when washing and wiping the mouth was in vogue.

(E) Enterogenous sepsis is another type. This occurs readily in infants on account of the permeability of the gastro-intestinal mucosa to bacteria. Not only the bottle fed, but also the breast fed infant may be infected by impure milk. Sepsis has developed in infants who have been nursed from mothers suffering from mastitis.

(F) Urinary infection may occur, particularly in female babies. It has been assumed that organisms from fecal discharges may gain access to the urethra and ascend to the bladder, renal pelvis, and renal parenchyma, though a hematogenous infection cannot be excluded in some instances.

Sepsis in infancy is characterized by its sudden onset and severe course. The typical form of sepsis in very young children is the pure septicemic type, characterized by the presence of pathogenic organisms and their toxins in the blood. As a rule, the infection becomes generalized without an intermediary lymphangitis or lymphadenitis. A typical pyemia, with the development of metastatic abscesses is not as frequent as in

later life, though it does occur. Osteomyelitis, purulent arthritis, and inflammation of the serous membranes may develop as complications. Metastatic empyema and pneumonia, as well as endocarditis and pericarditis, are observed. Purulent peritonitis is frequent after umbilical infection. At the onset the fever is usually very high, but in many cases it declines after several days and becomes irregularly remittent. Before the end, collapse with subnormal temperature may develop. In weak asthenic babies the course of the disease may be afebrile. Hemorrhage and persistent icterus are characteristic manifestations of sepsis in infants. The icterus may be so intense that the skin appears bronzed. Hemorrhages may occur into the skin from the navel, from the mucous membranes, and some cases of melena may be of septic origin. Buehl's disease and Winckel's disease are probably septic in character. Hemorrhagic nephritis is not an infrequent occurrence. Skin eruptions of various kinds are not uncommon, such as roseola, morbilliform or scarlatiniform rashes, sclerema, and edema.

The diagnosis of sepsis in young infants may present great difficulties. The demonstration of a primary focus is not always possible. The appearance of the navel does not always reveal the nature or severity of the infection. Neither umbilical periarteritis nor thrombophlebitis can be diagnosed with certainty in the living child. Internal metastases may be overlooked by the most astute clinician. Hemorrhages into the skin are strikingly suggestive of septic infection. Positive blood cultures, though not easily obtained at this period of life, offer the best confirmatory evidence. Nevertheless, the clinical viewpoint should occupy first place in establishing the diagnosis.

GENERAL SEPSIS PAST INFANCY

Probably the most frequent atrium for septic infections in childhood is through the tonsils, pharynx and communicating cavities. A familiar example is furnished by the severe tonsillar infection of scarlatina. In this connection it may be stated that it is not universally conceded that the hemolytic streptococcus is the causal factor of scarlet fever. There are those who believe, after thoughtful consideration of the whole problem, that scarlet fever is caused by a filtrable virus and that the streptococcus plays the role of a secondary invader. The exciting organism, whether it be a filtrable virus or a secondary invader, may find lodgment in a wide expanse of mucous membrane, including the area from the tip of the nose to the larynx, with the addition of the mouth cavity, the accessory sinuses, the conjunctival sac, the middle ear with its antrum, the mastoid, and the eustachian tube. Werner Schulz has recently expressed some doubt as to whether the tonsillar tissue is the point of entrance of the infection or whether the angina occurs during the process of elimination of the organism during a general infection. In point of sequence of infection it may be difficult at times to decide how the infection gained access to the body. Sometimes a tonsillitis occurs during the course of a septic gonorrhea in adults, in typhoid fever, or in syphilis. There can be no doubt that in these diseases tonsillitis is secondary. On the other hand, no one will deny that the tonsillar tissues may be, and frequently are, the atrium of infection. The tonsils and pharynx in scarlet fever very soon may become the site of an inflammatory necrosing process. The neighboring lymph nodes frequently become involved. While these may suppurate and remain local, in the severest cases metastatic or pyemic processes result, such as, endocarditis, pericarditis, myocarditis, pleurisy and pneumonia, osteomyelitis, appendicitis, peritonitis, and septic infarcts of the kidneys and spleen.

Necrotic anginas of streptococcic origin may arise independently of scarlatinal infection and may produce severe septic complications. In the grippal infections, whether due to the presence of the influenza bacillus or to streptococci, severe sepsis with selective localization in the respiratory system or in the nervous system may occur. In these cases meningitis is of not infrequent occurrence, and the influenza bacilli have been recovered from the spinal fluid.

In every case of tonsillar infection or angina, septic infection is a possibility, and probably occurs more frequently than is commonly thought. One is struck by the variety and multiplicity of manifestations. At times the angina occurs ten or fourteen days before septic symptoms manifest themselves. At the onset chills are likely to occur, associated with more or less continuous or remittent fever. The history of chills is of greatest importance. A chill signifies that the focus of infection is in communication

with the blood stream and that the bacteria have gained access to the circulation. The occurrence of a chill in the presence of an angina is presumptive evidence of the presence of a thrombophlebitis. Cervical adenopathy develops early; multiple pulmonary abscesses may occur, and metastases may develop in various parts of the body. Thrombophlebitis of the palatal vein and of the cavernous sinuses have been observed in various patients. The local symptoms may improve, but the chills, fever, and metastases continue. As a rule, there is a marked contrast between the mild local symptoms and the severe general condition. Cases of post-anginal sepsis offer an unfavorable prognosis as a rule. Some of the patients run a hyperacute course, ending fatally in a few days, and in other cases the illness extends over a period of weeks or months.

In children past infancy sepsis is of relative frequency after otitis media and its complications, such as lymphadenitis, mastoiditis, and thrombophlebitis of the cerebral sinuses and jugular veins with advancing septic thrombosis.

In addition to the tonsils as a focus of infection, contaminated wounds, abrasions, fissures, phlegmons, severe eczema, and other pustular and vesicular eruptions, as well as erysipelas, may be a source of streptococcic sepsis. Rarely do septic processes originate in the lung. The bronchopneumonias so frequently encountered are nearly always secondary. The same is true of septic scarlet fever. The complicating pneumonias nearly always occur as the result of metastatic processes. Various alimentary infections may act as the foci of infection. Dysentery bacilli, producing intestinal ulcers, may enter the blood stream. The same is true of the ulcers of typhoid fever and tuberculous ulcers of the intestine. A perforated appendix with a subsequent peritonitis may produce a generalized sepsis, if the patient survives the first shock of the infection.

It is not possible here to go into great detail concerning the various clinical forms of sepsis which occur. Briefly, we may mention first the acute type of sepsis which develops rapidly, which is usually hyperacute in its manifestations, and which may cause death in two or three days. The foci of infection producing this sepsis have already been referred to, and may be an angina, a furuncle on the lip, or a multiple furunculosis. Indeed, any phlegmon or abscess may unexpectedly lead to a general sepsis and run an acute and fatal course.

Secondly there is a chronic form of sepsis, which is also spoken of as sepsis lenta. Clinically this type manifests itself as a rheumatism or a recurrent endocarditis. The chronic form frequently begins acutely, but may persist as a prolonged and protracted disease. The streptococcus viridans is frequently encountered in these cases.

A third form is that characterized by agranulocytosis. This condition, first described by Werner Schulz, involves first the tonsils, pharynx, gums, tongue and larynx, and sometimes there are ulcerations on the genitalia. The local process is necrotic, membranous, and gangrenous. The regional lymph nodes may become swollen, and the liver and spleen are sometimes enlarged. The blood findings are characteristic. The leukocytes are diminished, and the granulocytes are practically absent from the hemogram. The lymphocytes preponderate. The blood platelets, the red cells, and their hemoglobin content are usually unaltered. It has been assumed that this blood reaction is due to an acute septic process. The profound and varied changes in the blood forming mechanism may be due to a variety of causes, and the hemogram resulting from sepsis may be varied in character. Consequently, agranulocytosis may be one of the possible reactions in the course of a septic process. It is possible to conceive that it may be due to the nature of the organism, its virulence, to the degree of resistance of the host, or to several combined factors. The salient point is that agranulocytosis is probably not a distinct disease and that it should be regarded as a reaction of the organism to a septic infection.

There are various opinions concerning the etiology and pathogenesis of the acute leukemias. There is no certainty concerning their etiology. Nevertheless, there are those hematologists who consider the acute leukemias in the light of a blood reaction to a septic process. Other views maintain that the leukemias are due to an unknown specific organism. A somewhat older school of clinicians held that leukemia is a neoplastic process. It is evident that no dogmatic statements as to etiology are permissible at this time.

TREATMENT

It is regrettable that at this time no san-

guine message can be brought regarding the treatment of septic infections. Most important is the prophylaxis. Much has been accomplished in this direction. The conquest of puerperal fever, septic infections of the new-born, and surgical infections in general furnishes one of the most telling chapters in the development of preventive medicine. Surgical procedure still remains one of the most potent forces in the prevention of septicemia. We need only mention the benefits derived from appendectomy, mastoidectomy, or the ligation of a thrombosed jugular vein in post-anginal sepsis. Where foci of infection are accessible and where they can be irradiated the best results are obtained. If it is possible to remove the source of the infection sufficiently early, bacteria are no longer introduced into the general circulation.

Bactericidal and Antitoxic Treatment.—It may be possible in a future day to obtain some chemical agent which will have a bactericidal effect on foci of infection. Up to now we have no satisfactory chemo-therapeutic agent in the treatment of sepsis. Rudolph Benko (Wiener Med. Wchnschr., Mar., 1930) found that the ordinary antiseptics in use failed to give the desired result as a rule, because they were unable to gain access to the intra-cellular bacteria. The ordinary antiseptics, such as bichloride, pyoktanin, and others, could not accomplish the purpose. Nor were the ethyl-cuprine-hydrochloride preparations of Morgenroth more suited because they were unable to penetrate deeply into the cell. Benko, after many years, prepared a substance, ortho-oxy-chinoline, which is characterized by lipoid solubility and high surface tension. This is too irritating for practical use, but after many attempts he found that an ammonium derivative of this substance was capable of dissolving lipoids, entering the cell and destroying bacteria without causing cellular death. This preparation has not as yet been subjected to sufficient clinical test. If chemotherapy is eventually to succeed in the treatment of sepsis, it seems, according to the theory of Benko, that a preparation should be obtained which is capable of penetrating the cell and producing a bactericidal effect without injuring the cell substance.

When bacteria have found access to the blood stream, the problem that suggests itself is to find, if possible, effective bactericidal agents. Modern investigators agree that the blood itself is a bactericidal fluid. Many tissues of the body are also capable of similar action, though this function is diminished in severe sepsis. It would seem reasonable to introduce bactericidal sera into the body. This has been frequently tried in sepsis without encouraging results. Even the efficacy of immunotherapy, *i.e.,* the injection of vaccines into the donor followed by the injection of his bood into the recipient, does not always give the expected results.

Chemical disinfection has been employed by various investigators. Koch conceived the idea of introducing bichloride of mercury into the body for the treatment of sepsis. He found, however, that this chemical agent coagulated proteins and produced undesirable tissue changes. Since that time numerous chemical substances have been used, more recently the antiseptic dyes. Some investigators have thought that these substances acted not simply as antiseptics, but that they increased the resistance of the organism against infection by stimulating the defense reaction of the cells of the reticulo-endothelial system. However, we must abandon the idea that the injection of dyes is capable of producing complete sterilization of the blood stream. We may state, therefore, that with our present methods and in the present state of our knowledge there is no efficient bactericidal agent in the treatment of sepsis, whether it be a serum or a chemical disinfectant. Perhaps this does not apply to antitoxic sera. There is considerable evidence that the convalescent serum of scarlet fever or the scarlet fever antitoxin may under certain circumstances neutralize the septic complications of scarlatina.

Symptomatic Treatment. — Symptomatic treatment is a matter of common knowledge and may be referred to briefly. The nutrition of the patient should be maintained. Alcoholic drinks are sometimes recommended. Vascular collapse is treated with strychnine, adrenalin, and pituitrin. In cardiac decompensation digitalis may give symptomatic relief.

A brief review of non-specific therapy seems to indicate that protein injections of various kinds give poor results or even produce injury.

Opinion is divided concerning the benefits derived from the use of auto-blood injec-

tions, intra-muscular, intra-peritoneal blood injections, and blood transfusions. There is no doubt that in cases of thrombopenia and grave anemia a supply of blood is at least of temporary value. It may be possible to increase the immune bodies of the patient temporarily by introducing into the circulation a fresh supply of healthy blood. A blood injection may be considered the most rational and appropriate form of non-specific therapy.

Recently a form of intravenous therapy, which has been designated the "Blockade Treatment," has been suggested. Ten minutes before an intravenous injection is given, one c.c. of pituitrin is administered subcutaneously. Following this an injection intravenously of trypaflavin or some other dye or Pregle's Solution (an antiseptic solution of the sodium salt of hydriodic acid and iodic acid with metallic iodine—.04 per cent) is administered. It is assumed that the chemo-therapeutic substance is absorbed more slowly and is permitted to come into closer and more prolonged contact with the cells of the reticulo-endothelial system. In this manner the defensive mechanism of the cells is stimulated to increased activity.

The clinical results achieved by the various methods in the treatment of sepsis are not convincing. Claims are made by those who represent various methods of treatment, but there are no large series of cases, and the statistics supplied from the small groups, even if favorable, are not conclusive, because all will agree that types of sepsis vary with the kind of organism, the previous health of the patient, the varying degree of resistance and other factors which render comparison or uniformity difficult or impossible.

ILEUS WITH REPORT OF TWO-STAGE OPERATION*

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That the thirty-two feet of human intestine closely coiled within the peritoneal cavity is not more often subject to obstruction than it is, is a remarkable thing to contemplate. Somehow, the nerve and muscle mechanism of this alimentary tube, aided perhaps by gravity, manages to keep the traffic lane open, and thus it functions best. But, when any of the mechanism calculated to prevent stasis fails, or is interfered with, by inflammatory or mechanical conditions which also cause strangulation, then the natural resources and functions of the body are upset, and ileus, with its attendant seriousness, soon damages this delicate tube, and life itself is in danger. The pent-up gas, which soon begins to form when stasis and strangulation occur, and the toxic absorption of the products of the intestinal flora, together with gangrene toxins, produce more or less sudden violent reactions and symptoms, which should lead at once to an investigation of the cause, and of the site of the lesion, with prompt institution of measures for relief.

Patrick Henry, the great orator, gave the world a famous saying, "Give me liberty or give me death," which is just as trite in the realm of intestinal obstruction as it was when our forefathers fought to free our country from the tyranny of George III.

There are no new diagnostic signs in ileus, but there is less excuse today for overlooking obstruction, whether it be due to strangulated hernia, adhesions, growths, or intussusception. Burgess in the Lancet, April 27, 1929, says, "The present mortality rate in 1,042 cases with 396 deaths is 37.9 per cent." It is the high mortality rate we are out to reduce.

The only possible reason for high death rate in ileus is the delay in operating. The cases with distended abdomens, fecal vomiting, and signs of advanced toxemia are mostly cases which have been getting watchful waiting treatment and doses of morphine. To give morphine in acute abdominal pain without first making a diagnosis is little short of murderous. To smother the symptoms by subduing pain without a diagnosis never was, and never will be, proper therapy. Morphine is indicated in intestinal obstruction only when a diagnosis is made or when the patient is about to be taken to surgery.

Sometimes, all the signs of intestinal obstruction are not present, and we hesitate. Fecal vomiting is not always present, but if

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we wait for it, the chance to save the patient is all but lost. According to Burgess, "The only hand that ever paints a complete pathological and clinical picture of any morbid state is the hand of death." The man who waits for fecal vomiting will practically never make a mistake in diagnosis, but rarely, if ever, will be save his patient. "Far better for the community in general," he said, "would it have been had the original advent into the world of such a would-be infallable diagnostician been in itself a perfectly complete clinical picture of the process of still-birth."

The diagnosis is based upon the history and findings. The X-ray may be useful, but should be used without waiting to give barium and if possible the film should be taken in the standing position. Close observation may show the presence of visible peristalsis, providing the case has not reached the stage of extreme distension. Fever may or may not be present; usually it is absent at first, and later may be slightly elevated as the complications begin to appear. Although there is a lot of conflicting evidence concerning the toxicity of the material in the loops above the point of obstruction, it is evident that the contents are, to say the least, extremely toxic. The nature of the toxin is not known, and the toxicity varies considerably. However, in a case of the strangulation type of obstruction there is the added toxin of substances which are present in moist gangrene. Clinically, the high obstruction develops rapidly. If the bacterial content plays an important factor in the disease, low obstruction should have more marked and rapidly developing symptoms, because of the greater bacterial content of the lower bowel. But this is not so, for, on the whole, when obstruction occurs, its seriousness is in inverse proportion to the distance below the pyloric opening. In other words, the lower down the point of obstruction the less acute are the symptoms and less urgent the case for operation.

In acute intestinal obstruction, the pain is referred to the epigastric region. It is generally paroxysmal at first, later becoming continous as the obstruction becomes complete. The vomiting, like the pain, is at first reflex, and later the vomiting is due to mechanical obstruction, and appears earlier the higher the site of the obstruction. In the lower obstruction, as from carcinoma of the rectum, vomiting may be absent throughout. The emesis consists at first of gastric contents, later it is bilious, and still later brown and feculant in odor, or fecal vomiting.

Rectal examination is important. In some cases, the cause of the obstruction can be felt, or seen through a proctoscope, as in stricture, or growth of the rectum or sigmoid. Ninety per cent of the colon obstructions are due to carcinoma. In the small intestine, the chances are 300 to 1 against the obstruction being malignant. Out of 596 cases of small intestinal obstruction, only two were due to malignant growth, according to Burgess, who also states that "eighty-eight per cent of small intestinal obstructions are due to adhesions or internal strangulations."

Treatment: In the early cases of intestinal obstruction, say within twenty-four hours of the onset, with little distension and general condition good, immediate operation gives prompt relief. Locating the cause of the obstruction, cutting the bands of adhesions, short circuit or enterostomy should be done as indications point the way. But in the late cases with general abdominal distention, dehydration, fecal vomiting and exhaustion, the skill is often taxed to the utmost. Some surgeons advocate doing a blind cecostomy, under a local anesthetic through a small incision in the right iliac fossa. This is calculated to relieve the obstruction, provided it is in the colon. But, in many of these late cases, it is difficult or impossible to locate the obstruction before operating, and, if it should be in the small intestine, the cecal opening will not give relief and valuable time will be lost. If the colon obstruction has resulted in strangulation, the cecostomy relieves the obstruction, but not the strangulation, which ends in perforation and peritonitis. Statistics show that the risk of such strangulation being overlooked when a blind cecostomy is done is at the most only 1.5 per cent, but to me, even that risk is too great to take. If uncertain as to the site of the obstruction, and if the cecum is found to be distended, then a cecostomy should be done either through the original wound or through a gridiron incision in the right iliac region. With no definite knowledge of the location or cause of the obstruction at hand, then a paramedian laparotomy must be performed, and location definitely determined. The first order of search should be to examine, from

within, the hernial orifices. If not found there, pick up a coil of the collapsed intestine and trace upward to the site of the obstruction.

Souttar shows that a blind enterostomy is not so safe a measure for relief of small intestinal obstruction, and that the risk of overlooking a strangulated intestine would be at least 42.6 per cent.

A summary of the treatment of acute intestinal obstruction may be considered under five different heads, and careful attention to each is essential to successful therapy. They are as follows:

1. Removal of mechanical obstruction.
2. Relief of dehydration.
3. Relief of toxemia.
4. Relief of starvation.
5. Drainage of small bowel by enterostomy.

Good judgment would indicate that giving of large amounts of saline solution and glucose before operation puts the patient in a favorable setting for operation and improves the risk. By using hypodermoclysis, or an intravenous injection, 3 to 4 litres of water and 50 to 75 grams of sodium chloride may be given in a couple of hours. Salt solution in 2 per cent under the skin and 5 per cent in a vein may be given slowly. After the operation, saline solution should be continued until the patient can take fluids by mouth freely. Glucose furnishes the caloric energy and relieves the starvation. It may be given slowly in 10 to 25 per cent solutions in a vein and may be given in sufficient amount to produce 1,500 to 2,000 calories without doing harm. If necessary five to ten units of insulin three times a day should accompany the glucose.

The patient seen late with intestinal obstruction and in poor condition from toxemia, vomiting, and dehydration, requires prompt, skillful handling in order to meet the desperate condition present. The strangulated intestine with perforation and beginning peritonitis requires of course immediate resection. With beginning peritonitis and owing to the poor condition of the patient, it would be fatal to attempt immediate anastomosis. The only recourse is to leave an intestinal fistula with plenty of drains until the patient revives sufficiently to warrant closing the intestine and abdomen. As much time should be allowed to elapse after the emergency operation as possible before undertaking the closure, in order to build up the patient and develop immunity to colon infection; three to six months is not too long. The skin irritation about the wound of the intestinal fistula usually compels us to attempt closure sooner than we otherwise would. The various measures used to protect skin against intestinal secretions are futile, and all too soon the patient demands that something be done to obtain relief. The following case will illustrate some of the points in connection with the handling of a desperate condition, as well as the technic of the final closing of the intestine and the abdomen.

Case B. G.—Woman, 49. Married. Has two children. Family History: Father died of apoplexy at 62. Mother living and well, age 72. No brothers or sisters. Personal History: Had but few childhood diseases, but had severe typhoid fever at age of 12. Married at 25. At age of 32 had dermoid cyst of left ovary removed and two years later had her first child. Three years ago had hysterectomy for fibroid uterus.

Present Illness: On September 25, 1929, was taken with acute abdominal pain, vomiting, and obstipation. She called a physician, who gave a hypodermic of morphine, and from then on, with morphine at intervals, for four days, the symptoms persisted. On the evening of the fourth day I first saw the patient, and her condition seemed hopeless.

Examination: A slender woman, five feet seven inches tall. Weight, 120 pounds. Temperature 100F, pulse 120, respiration 28. Systolic blood pressure 100, diastolic 70. Some râles over chest, but no dullness. Heart dullness normal, no murmuurs, pulse rapid and weak. Moderate distension, no gas sounds heard, abdomen moderately tight, no signs of visible peristalis. Extreme tenderness over whole abdomen, and a mass was felt in the lower abdomen, which marked the most tender point. The mind was clear, expression anxious. The patient had vomited continuously for four days. States that emesis had occurred 25 times each day. The emesis had a fecal odor and the tongue was coated. After giving her 1,500 c.c. of saline solution by hypodermoclysis, she was taken to surgery.

Operation, First Stage: Under gas anesthesia, a left paramedian incision was made and a large, black perforated mass of small intestine was found in the lower abdomen. After walling off with hot packs, the strangulated gangrenous small intestine was lifted out of its bed. The involved intestine was found to be a loop of the jejunum, 14 to 16 inches in length, that had become twisted at the point where a band of adhesions joined the loop together. The band was cut, the loop freed and the gangrenous intestine cut off. The proximal and distal ends of the gut were fastened into the lower end of the wound, with an enterostomy tube in the proximal opening, four large cigarette drains were placed in the abdomen, and the wound closed down to the opening of the enterostomy. Every effort was made to hurry the operation in order to save the patient the shock of any prolonged operative procedure. Upon returning to her room she was given more saline hypodermatically, also glucose intravenously, and the Murphy drip was kept going for three days. She rallied, the vomiting ceased, took liquid nourishment by mouth and soon was convalescing. A period of ten weeks was allowed to elapse before undertaking the closure of the intestine. During this time the patient's resistance built up, she ate well, but the irritation of the

abdominal skin from the intestinal secretions was so annoying that it finally forced us to undertake closing the intestine a little sooner than we had expected.

Operation, Second Stage: After an ounce of castor oil the day previous and with nothing but water for twelve hours before operation, under gas, the operation was undertaken. On account of the infected granulation tissue in the scar of the first operation an attempt was made to close off the old wound by making an elliptical incision about 1 cm. outside the margin of the old incision, and as soon as the skin and subcutaneous tissues were incised to bring the edges of the wound together with a running stitch so as to close in the lips of the old wound, sealing up the scar, and covering in the ends of the intestine at the fistulous opening. The incision was then continued downward through the muscles and fascia and peritoneum, and the old wound, having been excised, was lifted up, the two ends of the intestine being attached to the old scar. Clamps were applied to the two intestine ends just below the scar, and the scar cut off. After further freeing the intestine so as to get it well up out of the wound, and making sure of the circulation from the mesentery, an end-to-side anastomosis was done, the distal end being joined to the sides of the proximal end. The distal gut was very much atrophied from disuse, but an anastomosis was easily accomplished. The blind end of the proximal gut was not closed, but a rubber tube was stitched into it, and the end swung under the peritoneum to a point four inches to the right of the incision, where it was fastened into a stab wound with the rubber tube left outside for drainage and to prevent distension. The original wound was closed with some difficulty on account of excising such a liberal amount of the scar of the old operation. Drains were left in the abdomen. The fistula, draining through the tube, took care of drainage and gas, and after about one week gas and fecal matter began to pass by the rectum. Closure of the fistula gradually took place and the patient's recovery without complication has become an accomplished fact.

DISCUSSION

Dr. C. D. Brooks (Detroit): I think, as has been stated before, that it is very important, when possible, to get the patient who has acute intestinal obstruction in as good condition as possible. In large bowel obstruction we feel also that it is very important not to operate as an emergency at the time the patient comes to the hospital, but to get him prepared by dextrose and saline intravenously and morphine liberally, and oftentimes after three or four days a week of this treatment they prove a very fair risk.

In obstruction of the smaller bowel, by strangulated hernia or any large loops of gangrenous strangulated bowel, if the gangrenous bowel can be brought outside the abdominal cavity and an enterostomy tube, both proximal and distal to the gangrenous bowel can be inserted, the patient may recover.

We feel in some of these desperately sick patients, with cold, clammy skin, that it is advisable not to attempt even removal of the gangrenous bowel at this time, but leave it alone for several days. In certain cases, if the proximal and distal enterostomy tubes can be connected by a glass tube, they will side track the gangrenous area.

It is highly important that no attempt should be made to do anastomosis in these very sick patients, as they will only die. If operation can be postponed for a few days they may live. We feel that the two-step operation for intestinal obstruction is a very vital factor.

Dr. E. Starr Judd (Rochester, Minn.): Every surgeon realizes that the presence of ileus constitutes a serious problem. However, experience has taught that certain kinds of treatment offer some advantage. Formerly we operated promptly upon the patient who came with a practically complete obstruction, distention and vomiting. We have learned that by medical treatment it is frequently possible to improve his general state and reduce the risk of the operation. During the acute illness the water balance is supported by saline and glucose. If the obstruction is only partially relieved the operative risk is nevertheless decreased. On some occasions it is possible to defer surgical treatment until the risk is materially reduced.

One of the sources of greatest worry is the partial obstruction that has its onset two or three days after operative procedure and in which there is gradually increasing abdominal distention. Gas may pass frequently by rectum but there may be intervals of retention of gas. Sometimes the patient vomits only occasionally. It is often difficult to decide whether an operation is a necessary procedure. While I value and very thoroughly believe in enterostomy as a relief for acute intestinal obstruction, I doubt the advisability of performing the operation until the condition absolutely demands it. In some instances an operation will be required. Other patients will have pain and difficulty for several days and then finally the condition will take care of itself. In the latter instance I believe the partial obstruction is practically always due to a low grade peritonitis. Ileus is a condition that tries one's judgment as much as any that a surgeon encounters.

Dr. J. G. R. Manwaring (Flint, Mich.): The Doctor discussed to some extent the general consideration of intestinal obstruction. There is one thing I would like to say about that. Some have taken dogs, put a window in their abdomens and made beautiful movies of the intestines in action. The dog lies flat instead of upright so that we get an imperfect understanding of the process. If you will observe these pictures showing peristaltic action, you will notice the part that contains fluid sinks out of sight and the loops with gas rise to the top. If the pictures could be taken in the upright position, this up and down motion would be very clear.

We know that adhesions of the small intestine are more serious than adhesions of the large. This is because the up and down movement is stopped by the fixation so that fluids have to be lifted up and over the fixed point. If this point is low down the gas has to be pushed down and under it. If it is high up liquids have to be pushed up and over it. With free floating intestines the liquids lie low and are stationary, the intestines moving instead, floating up and down without lifting the liquids or pushing down the gas.

The colon has no such free movement but instead usually pushes on less liquid contents by an additional lengthwise contraction.

The doctor spoke of the two-stage operation for obstruction. It seems to me one of the greatest pieces of magic given to surgeons in the past fifteen or twenty years has been enterostomy. No doubt it saves many lives.

It seems to me in those cases of post-operative obstruction, following local peritonitis, developed after operation, it is seldom a good thing to search for your obstruction. In my experience an enterostomy has sufficed nearly always in those patients where you do not fear gangrene and other things.

By the way of differential diagnosis, I think the

X-ray examination made without anything but air in the intestines, is very valuable. It will differentiate between large and small intestine. You can tell easily about where the obstruction is by the appearance of the air markings.

Now in the large intestine, he spoke of cecostomy. Cecostomy is used occasionally, but I seldom use it any more. We have to do a drainage operation more often for obstruction due to carcinoma, of course, than anything else. If the case comes to you with obstruction, the two-stage operation is absolutely the thing to do. And in case you can, you can do a colostomy. If the obstruction is higher, rather than do a cecostomy, when possible, I do a colostomy of the transverse colon, because if I can't relieve the condition causing it, I can leave the opening and have more control of the contents than you can from a cecum. The cecum usually has liquid contents; after a long time sometimes they get so they are not so liquid. In the transverse colon, at the middle, you get stools more or less formed, and in case you can't do anything further, they are much more comfortable. Since using the transverse colon more freely, I have had no occasion to do cecostomy.

As I said, the two-stage operation is a life-saving procedure for I think we are tempted to do too much frequently in these cases. I think spinal anesthesia has added a great deal to the ease with which some particular cases are explored without damage. But people, if they have passed middle life, are fat or distended, do not stand spinal anesthesia well. It is a thing to be used with discrimination.

DR. ROY D. MCCLURE (Detroit): I would just like to emphasize the importance of early diagnosis in ileus cases. Some patients come to a fatal ending who might not otherwise have done so were early proper diagnosis made of the condition. If an early diagnosis of ileus can be made there is less call for the two-stage operation.

EXCRETION UROGRAPHY*

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and
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In reviewing the roentgenographic studies in the first fifty cases in which iopax was used in the Department of Urology at the Detroit Receiving Hospital, some points in its favor and some against its use as a routine procedure in X-ray studies of the urinary tract are worthy of emphasis. In this series, the authors have attempted to evaluate the diagnostic worth of this iodine-containing substance, which in many cases is excreted from the blood stream by the kidneys, in a concentration sufficient in intensity for X-ray visualization of the urinary tract. During the past twelve months, the literature has been replete with articles dealing with the many aspects of intravenous urography in practically all countries where complete diagnostic work is being carried out.

Like any new addition to the methods of diagnosis and treatment in medicine and surgery, there is bound to be an over-estimation of the value of such an agent, closely followed by an expression of disappointment by those who have found a greater percentage of failures than were admitted by early enthusiasts. It would appear that the statement of the American distributors to the effect that, "a short time after the injection of this compound, a clear X-ray picture is made of the urinary tract," requires elucidation.

The work of Graham in cholecystography a few years ago stimulated workers to continue the attempts of Rowntree and his co-workers,[1] who, in 1923, published the results of their rather disappointing attempts at visualization of the urinary tract through intravenous injection of sodium iodide in ten per cent solution, also by large doses of the iodide by mouth, and who at that time were able to visualize the bladder and occasionallv the pelvis and ureter, in a limited number of cases. Volkmann,[2] repeated a portion of Rowntree's work the following year with similar results. Rosenstein and von Lichtenberg,[3] reported in the same year, similar work of their own at the Urological Congress in Berlin. For a time, little progress had been claimed until 1928, when Roseno[4] was perhaps the first to obtain any practical information by intravenous urography when he used a combination of urea and sodium iodide—$NaI.CO(NH_2)_2$—which he termed pyelognost. Although he was pleased with the roentgenograms obtained, he admitted enough severe reactions to make the latter a definite objection to its use. The following year[5] he reported progress in a presentation of his work at the

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Urological Congress at Munich, giving a complete report to date of his results, describing the methods employed. Other workers up to this time had been carrying out investigations in animals with the halogen salts with varied and rather unsatisfactory results.

Hryntschak at the same meeting, in discussing Roseno's paper, and later reporting his own work in 1929,[6] described his results in about two hundred animal experiments with a large series of iodine and bromine compounds, using as adjuvants to influence excretion as well as movements of the kidney and pelvis and ureter, atropin, pituitrin, urea, etc. He stated that, although he had been working on this problem for two and a half years previously, he had been able to obtain satisfactory pyelograms in but a few cases, but he was hopeful of perfecting his method. At this juncture, Swick[7] commenced his experimental studies with a compound described as N-methyl-5-iodo-2-pyridon, which had previously been synthesized by Binz and Räth, which contained fifty-four per cent of iodine and was found following animal experimentation to be excreted to the extent of about eighty per cent of its iodine content in the urine within sixteen hours. Nausea and vomiting, severe pain at site of injection and occasional diplopia were objectionable factors following its use in the human. Following this work, a compound having an iodine content of forty-two per cent which is readily dissolved in water, forming a neutral solution, was found to be less toxic, and to which these chemists gave the name of uroselectan. This work was carried out under the direction of Lichtwitz in Altona and von Lichtenberg at St. Hedwig's Hospital, Berlin. It is not within the scope of this paper to go into the chemistry of the different substances which led to the synthesization of the last named compound which has been designated as "iopax—sodium 2-oxo-5-iodopyridine-N-acetate — sodium 5-iodo-2-pyridon-N-acetate—$C_5H_3ION.CH_2COONa$," and which was recently approved by the council of Pharmacy and Chemistry of the American Medical Association.[8] Von Lichtenberg has continued his work in perfecting what he considers a more suitable compound and reported at the last meeting of the

Fig. 1. Hydronephrosis secondary to stone in ureter below pelvic brim.

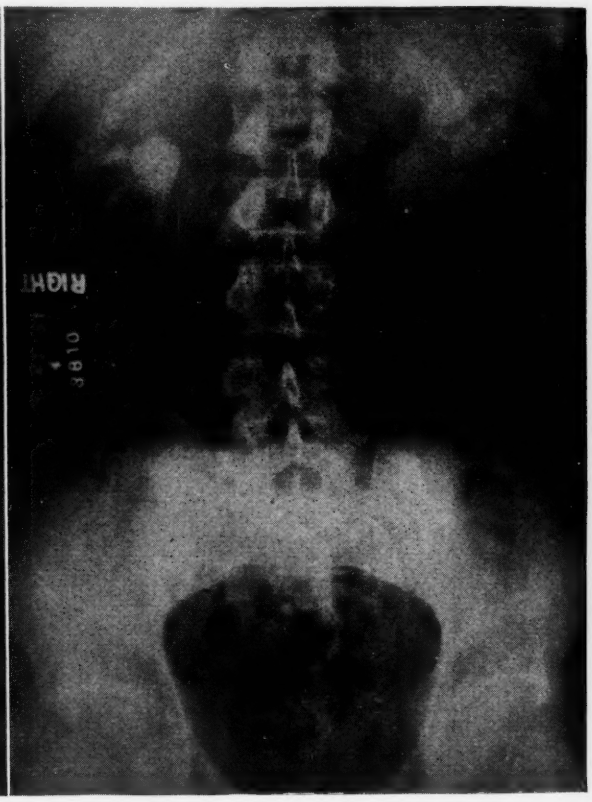

Fig. 2. Left hydronephrosis with normal right kidney.

British Royal Society of Medicine[9] five new contrast preparations for the first time. He favors uroselectan B (D40), one of the five, and states that it contains but one-fifth the amount of iodine of uroselectan or abrodil, that it can be administered in 15 gm. doses, dissolved in only 20 c.c. of water, and that greatest concentration of D40 occurs in thirty minutes after intravenous administration, whereas, the greatest concentration of the former two compounds occurs in from forty-five minutes to one and one-half hours.

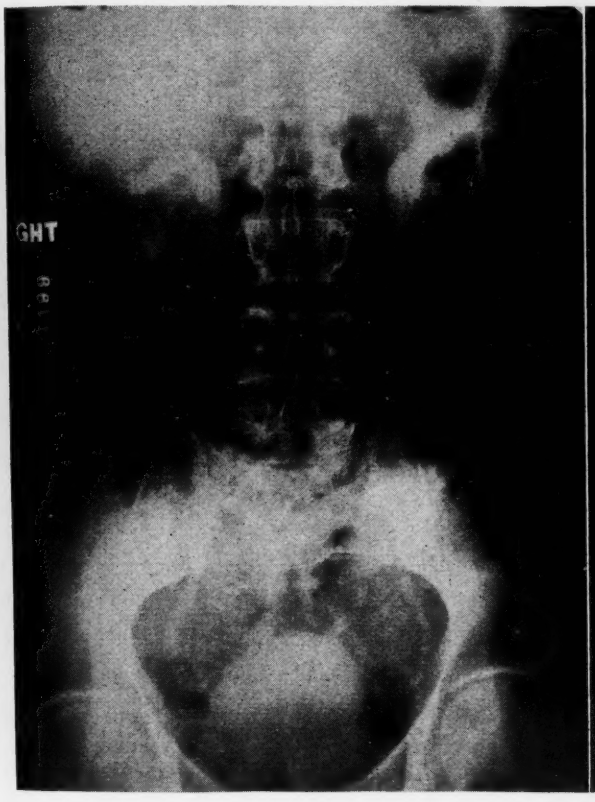

Fig. 3. Bilateral pyelonephritis with double right ureter.

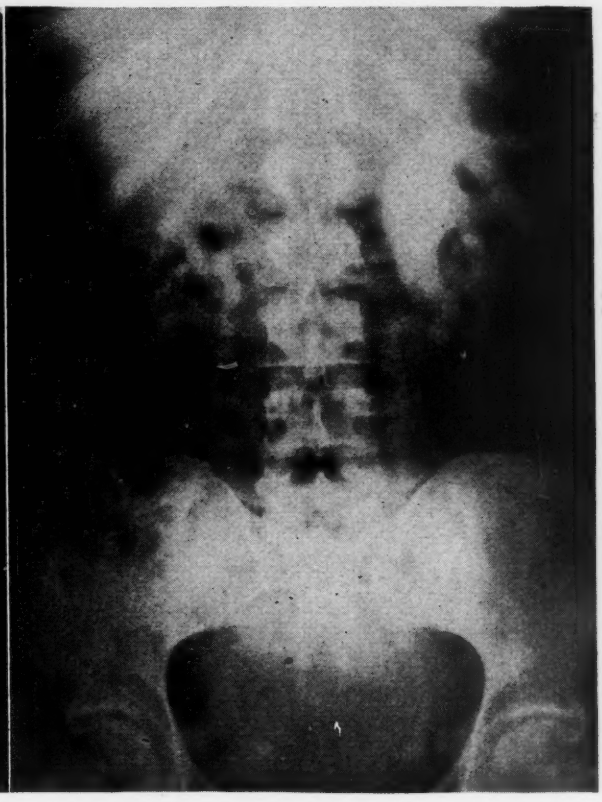

Fig. 4. Hydronephrosis with secondary uereteral angulation.

Many advantages are apparent in the use of excretion urography, the chief desideratum being the absence of the ordeal of retrograde pyelography, more accurate studies of the dynamics of the urinary passages without distortion from over-distention of the renal pelvis and ureter, or reflex inhibition of secretory function of the kidney. Simultaneous excretory function of the kidney with urography may also be carried out. This was done only in a limited number of cases in this series and will not be considered here. With many writers claiming most unusual advantages of intravenous urography, it became at once apparent that thorough trials should be given the least toxic of these compounds and urologists and roentgenologists have co-operated to the extent that a fair estimation of the value of the compounds on the market can now be made. The contra-indications of excretion urography are chiefly: Severe damage to the kidney cortex as revealed by urea retention, phenolsulphonephthalein excretion, and poor concentrating power of the kidneys or advanced pulmonary or circulatory disease. Tuberculosis and thyrotoxicosis are still under discussion as to their contra-indication for the use of such high iodine containing compounds. Although the iodine is excreted in pure form by the kidneys, leaving but small amounts in the body cells, there is still doubt as to the real damage done in the last named diseases.

METHOD OF ADMINISTRATION

The usual dose of iopax used for an adult was 40 grams. This was given in 100 c.c. of double distilled water at body temperature. Previous to administration, the patient was prepared as follows: (1) Com-

pound licorice powder, one ounce at 5 p. m. the day before examination. (2) Cleansing enemas in the morning. (3) No breakfast. No fluids. (4) Eserine one-fiftieth grain, one-half hour before giving uroselectan. (5) Uroselectan injected very slowly at body temperature intravenously over a period of fifteen minutes into the median basilic or cephalic vein.

Fig. 5. Contracted bladder with calculus, nephroptosis, bilateral pyelonephritis with stasis.

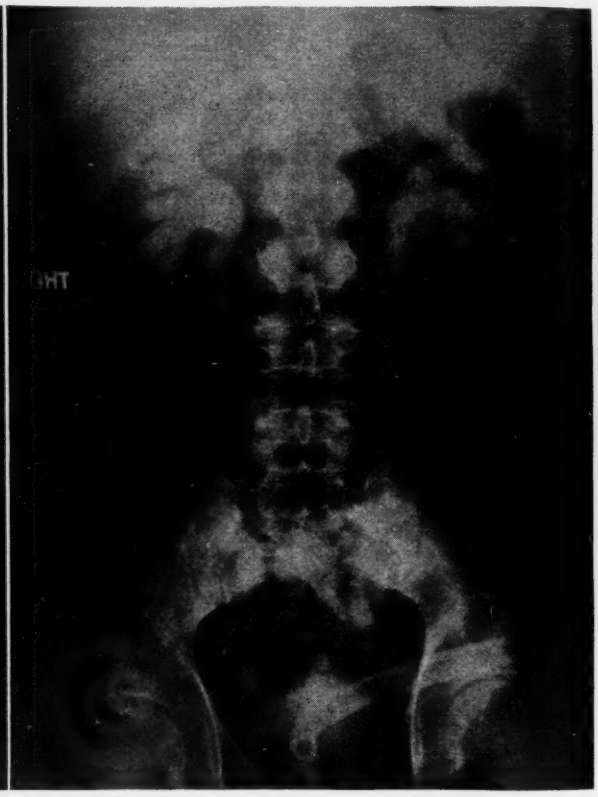

Fig. 6. Bilateral hydronephrosis and hydro-ureter.

The first roentgenogram was made fifteen minutes after completion of injection; the second, thirty minutes following; the third, one hour following; and the fourth, one and one-half hours following. It was found that the second roentgenogram, or the one made thirty minutes following completion of injection, or forty-five minutes after commencing injection, was the most satisfactory for X-ray diagnosis; the third, next; the first, next in value; and the fourth the least useful.

REACTIONS OBSERVED

Following administration, symptoms were noted in their order of frequency as follows: Dry mouth 35, generalized body warmth 28, pain right arm or elbow or both 25, localized sensation of warmth at elbow and arm 15, nausea 10, vomiting 3, urticaria 3, pseudo-ulnar palsy one day duration 2, dizziness 1. No alarming reactions were noted although in three cases severe nausea and vomiting caused considerable discomfort to the patient. Most of these reactions were frankly transient.

In thirteen cases of this series, evidence was absolutely nil as regards the upper urinary tract. In six of these cases, poor cystograms were also obtained. In nineteen cases, we have graded our results as indeterminate. In these cases, although an outline was obtained it was never satisfactory for a complete visualization of the urinary tract, and although it was helpful in establishing a diagnosis, the roentgenograms obtained were not highly satisfactory. In eighteen cases the results were highly satisfactory and good evidence of the kidney function as revealed by the roentgenograms, dynamics of the kidney pelvis and ureters and bladder were complete. Of course, there must be no denying the fact that any of the media now in use injected through a ureteral catheter can in every case give perhaps a more clear and dense shadow than

any excreted chemical, at least to date. At this juncture, we wish to state that intravenous urography can not and probably never will compete with the retrograde pyelography in regard to density of shadow and clearness of outline, but it does give great promise of advancement in our X-ray studies of the physiology of the kidneys. Many phases of systole and diastole may be observed through this method which are missed in the former.

One is frequently requested to carry out such procedures with the hope that complete diagnosis, or at least a complete roentgenographic diagnosis, of the case may be obtained, only to find that, after all, cystoscopy, with the orthodox but often painful retrograde pyelograms, must be done before studies are completed. Commercial laboratories, too, in their enthusiasm, have inferred that this method of urography has reached a highly diagnostic value when used routinely, with the same effect. As shown by recent research, this type of visualization is still in an evolutionary stage and still greater assistance in urographic diagnosis is to be hoped for as time goes on. At the present there is a place for such studies and when positive results are obtained they are frequently valuable. Disappointing results, apparently those of a negative character, certainly have been encountered when this method is used as urographic routine.

In cases of intolerant bladder, tuberculous cystitis, obstruction of the ureter from impassable stricture or stone, extensive bladder tumor, or lower obstructive uropathies, as prostatic hypertrophy, carcinoma, urethral stricture, etc., and in cases where vesical reimplantation or sigmoid transplantation of the ureter has been done. It is often of value where a nephrogram is desired as in renal cysts, and frequently in kidney tumors, although the cases of such growths were not great enough in number in this series to make deduction possible. The best films in this series were obtained in cases where stasis was present, either from atony or mechanical obstruction.

In thirty-six of our cases, retrograde pyelograms were, of necessity, carried out to complete studies for diagnosis. In seven cases where there was definite obstruction from stone or stricture of the ureter, satis-

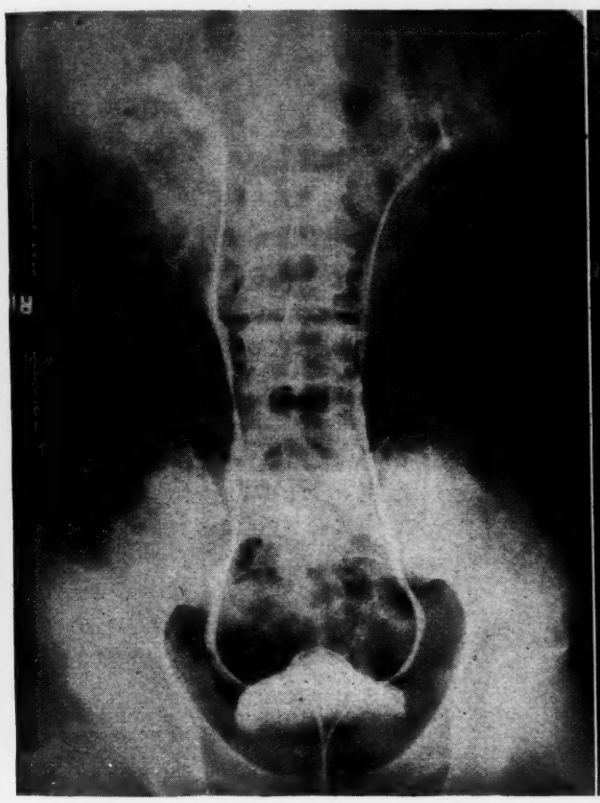

Fig. 7. Kidney tumor demonstrated by retrograde urography following failure of iopax.

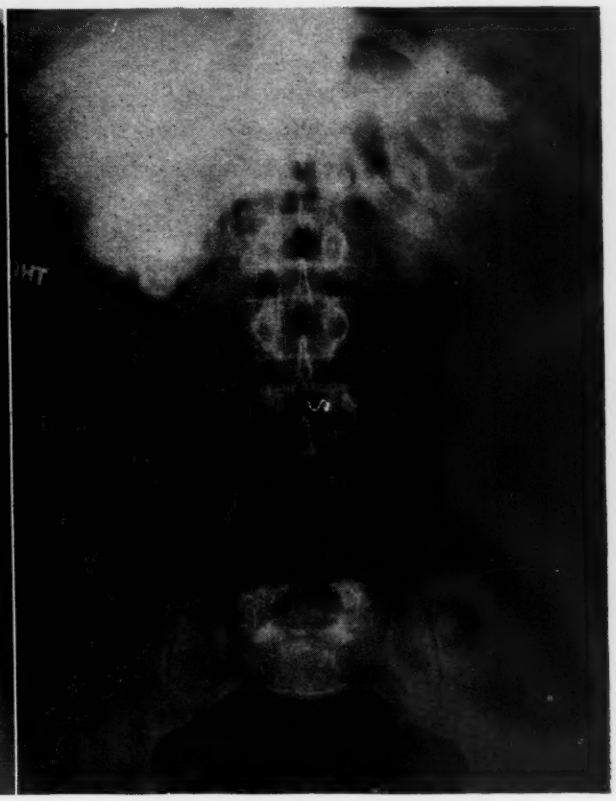

Fig. 8. Calculus pyonephrosis; calcified gland, course of normal left ureter.

factory urograms were obtained. In thirteen cases of stasis with or without stone, urograms were also valuable. In two cases in this series, advanced degenerative tissue changes rendered the secretory portion of the kidney inert and the negative findings were helpful.

In thirteen cases in which the observations were of absolutely no assistance, they were diagnosed as follows: Normal 5, pyelonephritis 3, kidney tumor 2, perinephritic abscess 1, renal tuberculosis 2. Perhaps larger doses would have improved results.

The final diagnoses in this series after studies were completed, were as follows: Normal urinary tract 11, double pelvis and ureter 3, polycystic kidney 1, vesical calculus 2, cystitis (acute and chronic) 10, contracted bladder 3, chronic pyelonephritis 10, hydronephrosis 9, renal calculus 5, ureteral calculus 6, carcinoma of bladder 1, tuberculosis of kidney 3, tuberculosis of bladder 2, ptosis (marked) 3, bladder diverticulum 2, ureteral stricture 3, kidney tumor 2, perinephritic abscess 1, pyonephrosis 2, traumatic atresia of ureter 1, renal aplasia 1, tuberculous perineal fistula 1, hypertrophied prostate 6, carcinoma of prostate 2, hydro-ureter 6. Thus it will be seen that a total of ninety-six pathological conditions were diagnosed in this series of fifty cases. In the group in which satisfactory X-ray data were obtained without retrograde urography, the following diagnoses are given: Normal 3, double pelvis and ureter 3, polycystic kidney 1, vesical calculus 2, contracted bladder 3, chronic pyelonephritis 3, hydronephrosis 7, hydro-ureter 4, renal calculus 5, ureteral calculus 5, carcinoma of bladder 1, tuberculosis of kidney 1, bladder diverticulum 2, ptosis (marked) 2, pyonephrosis 2, renal aplasia 1. This group illustrates the higher incidence of diagnostic shadows in cases of stasis from any cause. Thus, roentgenographic evidence was incomplete in a total of fifty-one conditions.

The unfairness of attempting to reduce to an arithmetical proportion of 45/96 is at once apparent and in this series such a method of arriving at a rational evaluation is mentioned only to be condemned. It is not so much a question of which is the better method as it is to select the proper cases in which to employ either method or both. Further use alone can establish the place for this very useful addition to urological diagnosis.

CONCLUSIONS

1. Dynamics of the urinary tract cannot be satisfactorily studied without excretion urography. Distortion is reduced to a minimum with this method.
2. Commercial laboratories should not attempt to sell this method as an all-diagnostic procedure; it is but one of the modi operandi of urological diagnosis.
3. Retrograde pyelography is not to be supplanted by, but supplemented with, excretion urography. Each has its pitfalls and strongholds.
4. Excretion urography is still in the process of experimentation, but even at this early date has proven to fill a place where the retrograde method cannot be carried out for reasons herein enumerated.
5. Excretion urography has come to stay and is a step forward in special and routine urological studies. Its administration is relatively harmless when cases are properly selected.

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PEPTIC ULCER: EXPERIENCES IN THE TREATMENT OF 108 CASES*

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This review is based on our experience in the treatment of 108 patients with gastric and duodenal ulcer. Half of them were observed at the North End Clinic, the remainder in private practice. Eleven were classified as "Results Inconclusive." (*See* VI in Table II). Of the ninety-seven cases, all followed by personal contact, two-thirds were observed from one to seven years, frequently through several recurrences and one-third were followed from four months to one year. The clinic cases were studied individually and were reviewed at a weekly conference participated in by internist, surgeon, roentgenologist, and dietitian. An attempt was made at co-operative management, and the decision as to medical or surgical care was generally a joint one. As nearly as possible whatever facilities were necessary were available, and a long time follow-up policy was maintained. Only positively diagnosed ulcers are included. Naturally many of these cases had treatment of various sorts, including operations, prior to coming under our care. The entire life cycle of the ulcer, not alone the period of our observation, has been studied.

TABLE I
General Data

			Jewish		71
Gastric	26	Male	83	Non-Jewish White	26
Duodenal	82	Female	25	Colored	11
	108		108		108

Age at Onset of Ulcer	No. of Cases	Duration of Ulcer on Admission	No. of Cases
12 years	1	Less than 1 year	17
15-19 "	9	1-2 years	6
20-29 "	34	2-5 "	16
30-39 "	32	5-10 "	25
40-49 "	22	10-20 "	32
50-59 "	8	20-30 "	9
60-69 "	2	30-40 "	3
	108		108

It will be noted from Table I that peptic ulcer is frequently found in young people. Our earliest case commenced in a patient when he was a boy of 12, shortly after starting work in a coal mine. Significant to us is that he was subject to the stresses of adult existence. Noteworthy are the number of cases in which ulcer symptoms appeared for the first time after age 40, a factor which led to confusion with gastric carcinoma in several cases. It is apparent that if gastric symptoms first appear after age 40 no conclusions can be drawn from the age alone as to whether the disease is ulcer or cancer. Before age 40, of course, ulcer is much more frequent.

Some idea of the life cycle of ulcer cases can be obtained from a glance at the figures showing the duration of the ulcer on admission. Over 40 per cent of the patients have a history of more than ten years of ulcer symptoms before coming to us.

TABLE II
Results of Treatment

I. Ambulant Treatment. Uncomplicated cases.
  1. Excellent response to one mild ambulatory regime. No recurrences (followed 1-3 years) 5
  2. Good response to two ambulatory treatments (followed 3-5 years). One case had appendectomy. 2
  3. Fairly good response. Repeated and prolonged ambulatory treatment necessary to control recurrences (average 1-2 yearly) 33
  4. Concomitant hyperthyroidism. Good response of ulcer to ambulant treatment.... 3

II. No Response to Strict Ambulatory Treatment. Uncomplicated cases.
  1. Bed rest. Excellent response. No recurrences 0
  2. Bed rest. Good response. Mild recurrences, subsequently relieved by ambulant treatment 8
  3. Bed rest. Poor response. Definite recurrence 5
     3 refused operation.
     2 operation contraindicated.
  4. Bed rest refused..... 2

III. Hemorrhage.
  9 cases (2 included in operated group) 7
  1. Responded to bed rest.....6
  2. Responded to surgery.....2
     (included in surgical figures)
  3. Died (massive hemorrhage)....1

IV. Obstruction.
  8 cases (2 included in operated group) 6
  1. Good response to medical measures 4

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2. Only fair response to medical management. Refused surgery 2
3. Obstruction at stoma (gastro-enterostomy). Fair response to medical treatment 2

V. Operations.
(Number of patients) 26
1. Perforations (all sutured only) 6
Excellent response, no recurrence 3
Fair response, may need further operation 2
Died 1
2. *Gastro-enterostomy as first or only operation 16
Excellent response (no recur. 2 yrs., 10 yrs.) 2
Fairly good response (no recur. 1-2 yrs.) 3
Fair response (recur. after 3-7 yrs. freedom) 2
Recurred within one year 7
Died 2
3. *Other operations as first operation 4
(Cauterization, gastric resection, 2 Devine operations).

VI. Results Inconclusive 11
1. Too recent to classify 4
2. Follow-up inadequate 5
3. No conclusions drawn 2

Total cases 108

It will be noted from Table II that only 5 cases of the 108 had an excellent response to the first ambulatory treatment. In this small number the symptoms disappeared in short order, the patient resuming a normal diet, minus spices, with no recurrences in the one to three years they were followed. The general impression among the medical profession is that this is a much larger group, and it is only after having followed a number of these cases for a considerable period of time that one can appreciate how few really are permanently cured.

The largest group (33) is listed as giving a "Fairly Good Response" to treatment. In these cases a strict ambulatory regime caused rapid disappearance of symptoms. In a few months or longer the patient was back with symptoms, generally of lesser severity because he had already started treating himself. After a few weeks of restricted diet, perhaps with the addition of powders and antispasmodics, he again was symptom-free. It is this type of case to which Einhorn (1) refers when, recognizing the seasonal nature of the recurrences, he tries to have the patient restrict his diet two to three weeks before the expected attack in the spring or fall. Similarly Kantor (2) states, "We do not tell the patient he is cured, but ask him to live carefully and report to us at the first sign of recurrence." These recurrences are part of the life history of the disease, and for the time being, or until such time as our therapy shall be based upon etiology rather than on symptoms, we will have to accept them as such.

Bed rest was advised in all cases where symptoms did not disappear on ambulatory management, or where the symptoms were so severe that ambulatory treatment was not attempted, and in the presence of complications. All cases severe enough to require bed rest had at least mild recurrences on subsequent ambulatory treatment. The additional five cases with definite recurrences of moderate to severe grade after bed rest treatment, and who were not operated, were to our minds candidates for surgery. Surgery was refused in three of these cases and contraindicated in the remaining two.

We are not under the impression that bed rest affects the life cycle of the ulcer. It is, however, a more positive method of initiating a remission than ambulatory treatment.

MEDICAL REGIME

Our ambulatory management is as follows: For the first two weeks the patient is given 1 glass of milk every two hours on the even hour. In addition at 8 A. M., 12 Noon and 6 P. M., he is allowed any of the following: soft boiled or poached eggs, toasted or slightly stale white bread or Uneeda crackers, cereals, as rice, farina, corn flakes, puffed wheat, puffed rice, custards, rice or tapioca pudding, or ice cream. On the odd hour he takes a powder consisting of 10 grains of calcium carbonate and 10 grains of sodium bicarbonate. The last feeding is at 8 P. M., the last powder on retiring. Extra powders are allowed if night pains occur, in which case a double or triple dose of powder is taken on retiring. The average patient is symptom-free before the end of the first week on this regime. Pureed vegetables are added during the third week, and tender meats and cooked fruits during the fourth and fifth weeks. The powders are then omitted for one week, following which the patient is placed on a fairly generous bland diet, with three extra feedings and four or five powders daily for a period of three to six months. Powders are omitted one week in every five according to the original Sippy formula.

A common fault in the management of

*Secondary operations are not included in this table.

ulcer is the feeling that the dietetic-alkali regime is the beginning and the end of treatment. Even intelligent patients who have had the disease for years will correlate the recurrence with the ingestion of some article of food, without recognizing that recurrences are rather the rule, even with strict dieting, than the exception Diet is, of course, important, and in some cases no other measures are necessary, but for cases which tend to recur at intervals other methods of treatment must be tried.

The eradication of foci of infection is all-important. The foci about the teeth and upper respiratory tract are easily taken care of in private practice, but many of the clinic patients are loath to have teeth removed unless money for plates is available, and many are uncoöperative in the removal of infected tonsils, etc. The removal of foci of infection in the gastro-intestinal tract is a vexing problem. A diagnosis of chronic appendicitis, based on X-ray signs and moderate tenderness over McBurney's point on physical examination does not always convince the patient (nor for that matter the physician) that appendectomy should be done.

In this series 23 patients had appendectomy, three being done before the onset of ulcer symptoms, the remaining 20 after the onset of ulcer symptoms. Of these latter, in only two instances were the ulcer symptoms alleviated for any considerable time (both over four years). Three patients had gall bladder operations after the onset of ulcer symptoms, with no influence on the course of the disease. Even if all ulcers were due to infection, these figures demonstrate that the appendix, for instance, is only one of the possible sources of infection. Relief of ulcer symptoms cannot be promised from appendectomy.

The care of the bowels is especially important in peptic ulcer. The patient often claims that he has gotten no relief from the diet-alkali management, when on close questioning the ulcer symptoms have disappeared, to be replaced by symptoms referable to the large bowel. We have discontinued the use of the Sippy No. 1 powder because the magnesia often sets up a colonic irritation. We rely on large doses of mineral oil, frequently repeated, to care for the almost inevitable constipation occurring early in the treatment.

The relaxation treatment, predicated on the theory that over-stimulation of the sympathetic nervous system causes vascular spasm followed by peptic ulceration, is worthy of thorough and persistent trial. The measures used are antispasmodics, as atropin sulphate, which we give in full dosage; general nerve sedatives, such as luminal, given regularly in adequate dosage; heat, as the full hot bath several times daily, the electric pad or hot water bottle, hot fomentations, and infra-red or ordinary lamp treatments. Diathermy, if administered frequently, should be of value here, but we have had no experience with its use. It is important to interdict the use of coffee and tobacco because of their clinically proven effects in producing symptoms. It is valuable in some cases to explore the patient's psyche for possible emotional disturbances causing a "chronic tensional state" (August, 3), and if found an effort made to adjust the difficulties. In two patients, adjustment of economic situations through a social worker initiated remissions in otherwise intractable cases.

Concomitant hyperthyroidism should be kept in mind. Three cases in our series preceded or accompanied mild hyperthyroidism. In these cases, control of the hyperthyroidism is an essential part of the therapy.

When symptoms persist despite accurate management, especially if night pains occur, aspiration of the stomach before retiring is indicated. We have frequently carried out this treatment on patients at home, and although it is time-consuming, the results are sometimes very gratifying. There is no single measure more successful in the treatment of night pains, and often several nightly aspirations will initiate a remission.

During the past few months one of us has used bacterial vaccines in about 25 cases included in this study This method of treatment has proved of suggestive value, in some cases initiating remission where everything else has failed. No definite conclusions can be drawn as yet owing to the brevity of the follow-up period and irregularity of the response.

Our routine bed rest follows the usual restricted Sippy regime, the limitations and duration of the initial semi-starvation depending upon the severity of symptoms and the response to treatment. Some cases have responded after prolonged rest in bed where

2 to 3 weeks of such treatment seemed to fail. A prolonged modified ambulant management always follows bed rest.

In explaining to patients the rationale of the diet-alkali regime there is at present a tendency unconsciously to over-emphasize the gastric acidity in relation to the "cure" of the ulcer, to the exclusion of other etiological factors. Of course this leads to better coöperation with the diet on the part of the patient, but the physician must be ready with another line of treatment if the first fail. Perhaps Sippy has diverted us from finding a cure for ulcer by his insistence on the alkaline formulæ. It is necessary to be persistent with the medical management, to "tire the ulcer out" if possible. We do not agree with the opinion expressed by some surgeons, who advocate bed rest if ambulatory treatment fails, and if the bed rest treatment does not relieve the patient in two or three weeks that operation is indicated. Medical treatment should be persisted in short of the presence of a complication, such as perforation, high grade obstruction unrelievable by medical means, repeated hemorrhage, and persistence of pain (not distress) despite repeated, prolonged and careful medical treatment There were a number of highly instructive cases in which surgery was advised for pain continuing despite prolonged bed rest treatment, but refused by the patient, and these patients have a minimum of symptoms at present, comparing favorably with much milder cases in whom the question of surgery never arose.

Pain persisting over prolonged periods despite bed rest treatment, or pain responding to bed rest treatment but recurring on ambulatory treatment, and of such severity that it interferes with the carrying on of the patient's ordinary activities, is an indication for surgery Long continued mild distress which does not prevent the patient from carrying on his usual occupation is in itself no indication for operation. It is our experience that by persistence and by changing the method of attack a remission can often be initiated in these persistent cases.

Confusion with carcinoma is at times very real, both clinically and at operation. In three instances in this series it was impossible to resect the ulcer, and in these cases the only grounds for excluding carcinoma is that the patients are alive and well some years after operation.

HEMORRHAGE

Nine of the 108 cases had one or more severe hemorrhages. Of the seven who were given medical treatment (five by us, two elsewhere) five are well today and have been symptom-free for the past year or more. One patient died recently of cerebral hemorrhage. Another, a colored boy age 17, came under our care in a moribund condition after repeated hemorrhages over a period of 4 to 5 weeks, and died a few days later. Autopsy showed a small penetrating ulcer on the posterior wall of the duodenum. As pointed out by Crohn (4) there is a well-known small percentage of deaths from hemorrhage regardless of the type of treatment used, occurring usually as the result of an initial brisk hemorrhage.

Though repeated hemorrhage is ordinarily considered an indication for operation, one of these patients had 4 hemorrhages, the last one 15 months ago; another 3, the last one 3 years ago. One patient had gastro-enterostomy after recovery from the second hemorrhage, and has been well 10 years. Another was operated upon after three weeks of mild continuous oozing despite careful medical treatment, and has been well 6 months.

Almost half of our hemorrhage cases were women, whereas the percentage of women in the entire group is only 23 per cent. This preponderance of hemorrhage cases in women is in agreement with observations already recorded. Crohn (4) states that whereas ulcer is five times as common in the male as in the female, hemorrhage is perhaps twice as frequent in females as in males.

OBSTRUCTION

We have had eleven cases in which obstruction supervened. All except one were males, and most of them had symptoms ten years or longer. Two were obstructed at the gastro-enterostomy stoma, the remainder at the pylorus.

Of the eleven cases, three are still under treatment, hence classified under "Results Inconclusive" (Table II). One of these was a high grade obstruction which required gastro-enterostomy to prevent starvation. The eight cases followed over four months were all treated medically, five with no recurrences in the follow-up period, the re-

maining three with recurrence of obstructive symptoms from time to time. In all three cases surgery was advised, but refused because of the relative comfort experienced when the stomach again compensated. We feel that this relief may be temporary.

The indispensable tool in this complication is the large sized stomach tube. Some of these patients become very adept in using it and we have had patients repeatedly pass it on themselves at home, with good results. Hospital management is preferable, however, as fluid intake and output can be more accurately determined and repeated observations of the non-protein nitrogen and sodium chloride content of the blood made.

Obstruction, even of high grade, is not in itself an indication for surgery unless not relievable by medical means. Sippy demonstrated that 90 per cent of the cases of obstruction were associated with edema of the mucosa and spasm of the sphincter, rather than with scar, and could be relieved by keeping the stomach empty and by frequent small feedings.

SURGERY

In addition to the operations listed in Table II, nine secondary operations were performed, making 35 operations performed upon 26 patients. All except one were males, and 80% were over 40 years of age. Ten operations on nine patients were performed by us, the remainder elsewhere, some by nationally known surgeons. Of the 16 patients who had gastro-enterostomy, only three were done by us.

In the table, the results in the perforations are self-explanatory. Two had very slight symptoms previous to perforation, three had long ulcer histories but were not under treatment for ulcer, one perforated while under our care—having repeatedly refused operation. Of the gastro-enterostomies, it will be noted that one case recurred three years, another seven years, after operation. Similarly one subtotal resection for duodenal ulcer developed a marginal ulcer after 5 years of complete freedom, and the one local operation (cauterization of a duodenal ulcer in a woman aged 40) recurred 3 years and again 5 years later.

It should be realized that several cases in this group represent the stubborn residue of ulcer patients who did not respond to ambulatory or bed rest treatment. The seven intractable cases (listed as recurrence within one year) represent the ulcer diathesis. Observing these patients over several years truly gives one the impression that in some individuals ulcer recurs no matter what is done. The secondary operations included: unhooking, resection of stoma, liberation of adhesions, subtotal or further resections. Two patients had four operations each over periods of 4 and 14 years respectively; one of these has been symptomfree for 3 months (the longest period in 4 years observation) following vaccine therapy, the other has recently had severe obstruction which for the time being has responded to repeated aspiration and frequent feeding.

In summarizing this surgical experience two things stand out: (a) unless patients are followed for several years it is impossible to know what has been accomplished; (b) there is no such thing as one standard operative treatment for peptic ulcer. Simple closure of a perforated ulcer may cure, or cure may be obtained after further dieting, or a second operation be necessary. Gastro-enterostomy is a good operation in some cases; it may require subsequent dieting to control symptoms; it may bring considerable relief with little risk, to an ulcer high on the lesser curvature.

The management of gastro-jejunal and recurrent ulcer is difficult. If the operative treatment fails to relieve the patient and simple dieting still leaves him in pain, three therapeutic possibilities are available: (1) Undoing or redoing operations as unhooking of a gastro-enterostomy, resection of a marginal ulcer, local resection of the ulcer, etc.; (2) more radical surgery, as subtotal resection, Billroth I or II; and (3) prolonged medical treatment. We have been surprised to note the relief obtained at times in these secondary complicated cases by careful medical care persisted in over weeks or months, and also to note the uncertainty with which any operation for ulcer is followed by permanent cure or arrest.

In handling recurrences after operation, our present attitude is an inclination to give the medical treatment of ulcer as wide latitude as possible, reserving further surgery only for those cases where this prolonged treatment fails, where hemorrhage or obstruction is not relieved, or pain persists.

No operation is finished without postoperative control, and no plan of therapy is

complete which does not include periodic follow-up, for it is by this means alone that one will know what has been accomplished.

SUMMARY

1. Our experiences with 108 gastric and duodenal ulcer cases, followed by personal contact for rather long periods, is recorded.
2. Ulcer cases often have their initial symptoms after age 40, a fact which should be kept in mind in the differential diagnosis from carcinoma.
3. The importance of other factors in treatment than the usual diet-alkali regime is emphasized. Among these are the removal of foci of infection, relaxation, bed rest, nightly aspiration, and bacterial vaccines. Persistence in medical treatment in refractory cases, with changing the method of attack is advocated.
4. The life cycle of an ulcer is characterized by frequent recurrences. The largest group of ulcer patients are those who respond to repeated ambulant treatments.
5. Medical treatment should be persisted in short of the presence of complications, as perforation, high grade obstruction not relievable by medical means, repeated hemorrhage, or persistence of pain interfering with the patient's occupation.
6. There is no single operation for ulcer, but each case presents an individual problem. Recurrences may take place after any type of operation.
7. In the management of secondary and recurrent ulcers, prolonged medical management, if possible, is preferred. A certain small number of cases, representing the so-called ulcer diathesis, are apparently refractory to any present day therapy, either medical or surgical.

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THE DAMAGED HEART IN INDUSTRY*

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My object in presenting "The Damaged Heart in Industry" is to indicate the possibility of engaging workers with subeffective hearts for productive positions in industry. I have approached this subject not with the idea of discarding existing knowledge of cardiac handling, or with a purely idealistic attitude, but with the hope that I can attract attention to the view that all damaged hearts are not necessarily excluded from usefulness in active manual work.

At this period of wide-spread unemployment, we may be prone to set our physical standards even higher than normally, thinking that this is a splendid opportunity to weed out, clean house, and make our physical selections absolutely one hundred per cent. Each physician will, of course, follow the dictates of his judgment in this matter. Allow me to suggest that many likely employes thus rejected may be future social burdens, or will drift to those employers who are not protected by medical direction and advice in employment, and be placed on work to which their physical condition is entirely unfitted. The same result is attained by either method.

The management and handling of a cardiac case is not within the logical scope of a physician in industry, but should be under the treatment or observation of the employe's personal physician. That phase of damaged hearts will not be considered in this paper.

When contemplating the pathological heart, our medical minds visualize a patient wholly or partially decompensated either in bed or otherwise incapacitated. It is quite possible that these people have not reached their present state by over-exertion, but by some over-indulgence or poisoning by toxic

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gases, metals or dusts by a recurrent infection. Let us consider the ambulatory cases which, without a physical examination, would pass employment requirements and thence to work. Let us say as a barrier to the physically defective and a protection to the applicants, present employes, and employer, a physician is employed. To him come the applicants, eager, often unwashed hordes. Here is an opportunity to cast away hundreds of potentially excellent, steady, conscientious producers, through inexcusable ignorance. An adventitious sound is heard in, or about, the heart. Thumbs down! Why? (1) Because there is something, somewhere wrong with the applicant's heart or circulatory system. (2) The industrially disinterested physician's knowledge ends with his immediate surroundings. He knows that somewhere outside the partitions in that crashing, banging, clanging, bumping turmoil is work. Damaged heart plus work, to his mind, equals loss of time, if not catastrophe. Having no knowledge of the nature of work and varieties of work to be done, he takes no chances. He visualizes syncope, accident. He visualizes compensation suits. He dares not risk criticism. The applicant is rejected. Applicants may present disturbances ranging from symptomatic tachycardia, bradycardia or arrhythmia to what we see in hospitals in advanced forms, organized structural changes.

How are we going to differentiate, select and decide to place, or not to place? (1) By having the authority to dictate the policies relative to health placements. (2) To have fixed policies. (3) To be able to diagnose and differentiate. (4) To have a complete knowledge of the nature of the work that the applicant is selected to do and what he is apt to be called on to do in his department.

Many cases of apparently damaged hearts give only temporary symptoms; so temporary that one examiner may hear an adventitious sound and the other not. In other words, it has disappeared, showing it to be innocuous. Time should be allowed to take a thorough history of all cases presenting heart lesions. It is the fair thing to do for both applicant and employer. Question and surmise past history. Delve into habits, into previous acute illnesses, into history of recurrent rheumatic attacks, into the history of old scars. Illuminating pertinent facts can thus be elicited. As you know, tachycardia is frequently produced by temporary nervousness, shock, fright, excitement, extrinsic stimulæ. By ingestion of a tasty but not wisely chosen meal. Paroxysmal tachycardia, which is no more or less than an example of physics—the relative depletion of the arteries through dilatation of the veins; this condition has been termed "arterial anemia" by Hirshfelder.

Perhaps too much concern is felt by the examining physician in industry regarding the arrhythmias. True, if these are associated with grave structural changes there is little to do but advise the applicant that his physical condition is not compatible with the work for which he has applied. Return him to the employment office for re-consideration or, if he is entirely industrially unfit, refer him to a medical source for advice. However, if an arrhythmia can not be connected with a structural change, either in heart or arteries, it is a social and economic waste to reject the applicant. Sinus arrythmias are physiologic in most cases. Then there is the little sound, which has been run to earth and christened systolic whiff, so fleeting that it is frequently not detected, and so unstable that perhaps no two examiners within the same day could hear it.

Even the most conservative insurance companies are willing to accept certain arrhythmias without premium rate increase up to the age of thirty-five. Six extra systoles per minute are also allowable to the age of thirty years.

The labor referred to has been the manual type. Just how much psychic effects bear on cardiac conditions in industry is an interesting study in itself.

Example.—A man, aged 28, with a rather marked mitral regurgitation, but little hypertrophy (which is not usually a good industrial risk), occupied a position as an electric spot welder. This is a rather active but not an excessively heavy job. He followed this work for four years without ill effects. He was attacked with pneumonia. He fully recovered with but little trouble. His heart displayed no further changes. It was felt to be better judgment to transfer him to a semi-clerical job. He had originally accepted manual work because of the opportunities of making a greater amount of money. He was placed as a rate setter, which involved no manual work but did require considerable nervous tension and irritating contacts. At the end of a year this man developed a marked decompensation. He was now compelled to quit work entirely. I do not believe his attack of pneumonia bore any part in his breakdown. The nervous tension was undoubtedly the cause.

For convenience in forming intelligent policies for definite decisions and for stated reasons to support the policies, it is frequently helpful to have fixed groups with which to classify the cardiac cases. There is perhaps no easier pathologic condition of the body than the diseased heart, to classify in definite groups. The heart in its structure and specific functions is so nearly akin to the finely balanced machinery of industry that it should strike a strong chord in the mind of the physician of industry.

While there is no pretense made to advise the remedial measures to be followed in the treatment of a damaged heart, let us remember that an attempt to put ambulatory cardiac cases at entire rest and allow the musculature to become inert, must be precluded as a therapeutic error. The heart does not differ from other muscular structures and exercise keeps the heart and circulation at their respective proper tone.

I would head the grouping with the classification broadly labeled—"potential cardiac cases." Under this heading come those who have suffered attacks of rheumatic fever, tonsilitis, swelling of the maxillary or sublingual glands, carious teeth. These are potential causes which damage hearts to an unknown extent and severity. Personally, I feel that these cases should not become employes of any kind until the focus of infection is found and removed. They are without present heart disease symptoms and are admitted as such. In six months' time, unless absence caused by a recurrence of the absorption of the infection brings them to the attention of the physicians, they may exhibit a marked myocarditis or endocarditis, which would continue until a death or hopeless destruction of heart structure would bring attention to the sufferer.

The second grouping brings within its scope all functional murmurs, tachycardia of extrinsic origins, and those having extracardiac origins, except hyperthyroidism, arrhythmias, functional in origin. This class could be safely dismissed from the list of damaged hearts and an unlimited work placement made.

The third grouping.—Applicants under the age of forty years with no asthenic appearance, fully compensated, with a sense of well being, without irritability, demonstrating a persistent mitral systolic murmur without hypertrophy or with slight hypertrophy, with lesion quiescent and absence of recognizable focal infection. These are normal risks and can receive unlimited placement if periodically observed.

The fourth grouping.—Chronic myocarditis with hypertrophy. This group deserves selected unlimited placement with periodic observations, especially relative to degree of cardiorenal vascular disease. This disease is slowly progressive even under normal labor strain, and the blood pressure and quantity of albumin in the urine is the safety factor. Physical examination of these employes should be made at least twice yearly.

Fifth grouping.—Aortic types. Of course, an applicant presenting an aortic lesion is rightfully considered with seriousness by any medical examiner. However, an aortic lesion with hypertrophy and fully compensated, can receive consideration of limited employment. Partial sitting positions, inspection of small articles, grinding pens, soldering radio parts, door men, packing small articles, packing cakes and biscuits, gluing small articles, measuring and weighing articles which, if large, require no physical strain in handling, watchmen, if no climbing of stairs is involved.

Sixth grouping. — Cardiac insufficiency cases of any type should, perhaps, not seek manual labor. They are usually accompanied with a mild decompensation and are inclined to rapid degeneration under the stress of physical activity.

Having somewhat arbitrarily classified the cardiac conditions that may cause us to pause, ponder and flounder, we can now, with assurance, feel that we have our factors and will adhere to them.

Age must be one of the deciding factors in the mind of the physician when faced with the decision of possible placement of a defective heart. Let us arbitrarily put the age limit of a new applicant with a damaged heart at forty. While cardiac diseases are quite numerous among children of school age, vascular diseases do not usually appear until the age of forty. The combination of a fully developed cardiac fault plus the degeneration of the vascular system would lead to unhappy results if subjected to physical overstrain.

It is particularly unfortunate that children of school age suffering from cardiac affections are enforced to long absences from their studies. Many are entirely unable to

finish their elementary education, making a technical education and training impossible, thus cutting off future opportunities of becoming draftsmen, engineers, and following other professional pursuits.

My opinion is not classed entirely on supposition or theory. It pleases me to have at hand some figures which without inflicting statistics may prove interesting. After the War, many men who had passed before me and my associates with affected hearts, both in industry and those whom we, as members of a Medical Advisory Board, had confidently passed as fit for selected service, came home. Those who did not come home did not die of their existing heart lesions. Those who returned were hard, hardy, well nourished men. They had accomplished hard marches, military life and routine. S. Neuhof gives considerable space in his book, "The Heart," to describing individual cases, their lesions, what duties they did with health ease, and express his opinion that damaged hearts, selected with prudence, can do their full share of productive work.

From 1920 to 1930, 129 cases of damaged hearts were productively employed at our plant in manual occupations. Forty-two cases of mitral stenosis without hypertrophy. Eighteen cases of mitral stenosis with limited hypertrophy. Fifty-seven cases of arrhythmias without apparent organic complication. Ten unclassified functional murmurs.

Three of this group have died of their cardiac conditions, although each one was on a selected work. In each case there were enough facts surrounding the deaths to fasten the exciting cause of death to indulgences outside their occupation. These cases will be recognized in a summary given immediately.

It is a frequently expressed thought, and one to which I give much credence, that no matter how carefully a group of applicants are examined, cardiac cases will slip in while others will appear quickly and subtly in robust employes. In the past seven years we have a record of 186 deaths occurring among our employes. Of this number, thirty-eight, or 20 per cent of all deaths, were due to some form of cardiac disease. These causes of death were frequently accepted from death certificates following sudden death and probably are in no degree absolutely correct. They are as follows:

2—Acute endocarditis	
12—Myocarditis	1—age group 30 to 40 5—age group 30 to 40 3—age group 50 to 60 3—age group 60 to 70 1—over 80
1—Chronic pericarditis	age group 50 to 60
2—Aortic regurgitation	age group 50 to 60
7—Acute dilatation	4—age group 40 to 50 3—age group 50 to 60
	(Three of the seven died during the week end. One had been drinking.)
2—Mitral regurgitation	1—age group 30 to 40 1—age group 50 to 60
2—Angina pectoris	1—age group 40 to 50 (Died during first known attack in our dispensary. Work not heavy.) 1—age group 60 to 70 (Died at home.)
2—Ruptured aneurysm	1—age group 60 to 70
8—All others	1—age group 20 to 30 1—age group 30 to 40 4—age group 40 to 50 2—age group 50 to 60

The known causes of the other 148 deaths and against these thirty-eight heart deaths, were:

Due to pulmonary conditions	47
Due to diseases of abdominal viscera (except cancer)	19
Due to diseases of renal system (except cancer)	5
Due to cerebral hemorrhage	16
Due to general paresis	5
Due to diabetes	2
Due to cancer and other tumors—all parts of the body	20
Due to accidents or homicides—(only 7 of these accidents were industrial)	26
Suicides	8

Of the thirty-eight heart cases only three had any record of cardiac physical findings at the time of their last examination at the plant.

Of the thirty-eight who died of heart disease, eighteen died suddenly after less than two days' illness. Four had other complications. Three died while on the company premises, one in the dispensary, one while walking through the plant on the way home with a foreman's pass because of not feeling well but not having reported to the dispensary. The history of neither man indicated that he had been engaged in any heavy work that day, nor did either case do heavy work. The third died while playing basketball in the evening on our premises. Diagnosed by the coroner as "valvular heart disease." Age group between 20 and 30.

The other thirteen died over the week

end. This particularly applies to those cases in which the death certificate bore cause of death, "acute dilatation of the heart."

A year ago in London I was privileged to examine 159 workers employed in a chemical plant. Of these, there were eight cases of aortic type, one with mitral stenosis and seven cases of marked tachycardia. All these cases were apparently in health and losing no more than the average number of days. All eight cases of the aortic type were on comparatively light work. The selection of work for these workers with aortic lesions was apparently made from the fact that all had long term service records and some suffered with "shortness of breath." It is interesting to note that three of these workers admitted syphilitic infection within the past fifteen years.

Our best intentions regarding the placement of employes with damaged hearts are frequently thwarted by rulings of existing beneficial associations or the curious wording of some state compensation insurance laws. In those states having occupational disease compensation insurance laws, the examiner must necessarily be especially prudent in his selection of affected hearts. Certain states still maintain the clause, "in the course of employment," and do not include the expression, "arising out of." This is indeed a difficult situation to surmount.

Knowing that a nationally known physician attached to a large steel mill had been making observations of the effects of manual labor on cardiac cases, I wrote asking him the results he had obtained, and the privilege of citing his work in this paper. His answer is as follows:

"I did not get very far in the heart work. Shortly after I talked with you we changed our relief and benefit scheme and it is hard now for us to employ 'poor hearts.'

"We do, however, keep our old ones, and those I had in mind when I talked with you are still here.

"Another with a marked myocardial degeneration worked as a laborer for two years.

"I am still just as much at sea as ever and am sorry I cannot help you. I am convinced from observations that many so-called heart cases are still good men."

Believing that a word of caution, to balance my seeming optimism, is fitting, I would strike a word of warning to any who may seek to be adventurous in their experiments with muscle fatigue of the diseased heart. Be sure of your diagnosis and classification. Make no placements amid harmful gases, vapors or poisonous dusts. Keep a careful record of entrances. Impress on the mind of the employe, not the danger of his heart, but the importance of a routine follow-up and re-examination. On or about the date for re-examination, let nothing prevent its fulfillment. Be sure that the employe is not transferred to other work than that for which he is originally selected until you have given your approval.

The various heart clinics have a standard classification relative to employment placement formulated by the Association of Cardiac Clinics, as follows:

Class I. Patients with *organic heart disease* who are *able to carry on* their *habitual physical activity.*

Class II. Patients with *organic heart disease* who are *able to carry on diminished physical activity.* (A) Slightly decreased. (B) Greatly decreased.

Class III. Patients with *organic heart disease* who are *unable to carry on any physical activity.*

Class IV. Patients with *possible heart disease.* Patients who have abnormal *physical signs* in the heart, but in whom the general picture or the character of the physical signs leads us to believe that they *do not originate from cardiac disease.*

Class V. Patients with *potential heart disease.* Patients who do not have any suggestion of cardiac disease, but who are suffering from *an infectious condition* which may be accompanied by such disease; *e.g.,* rheumatic fever, tonsilitis, chorea, syphilis, etc.

As this classification, only, is followed by the heart placement bureaus, it is difficult to ascertain the specific diagnosis of those placed in industry. During 1930 the Cardiac Placement Bureau of the Philadelphia Health Council and Tuberculosis Committee placed in industry thirty-nine people. This group was composed of both men and women. They were placed conservatively and all on very light work; telephonists,

soldering on radio parts, wrapping chewing gum, sewing in book bindery, making lamp shades, mechanical dentistry, packing in shirt factory, order man in warehouse, night watchman on construction job.

These positions, you will please realize, were given to people who were definitely advanced cardiac cases and had been diagnosed, treated and referred by a heart clinic. The placement of these people in industry is an outstanding piece of work and such work has a monumental place in American life.

This leaves, however, that great unnumbered mass of undiagnosed, untreated, unadvised and unclassified people going around, frequently making a superhuman effort to accommodate their physical condition to the necessity of keeping up the obligation of normal life.

Each industry has its individual obligation to community life. As these people present themselves as applicants for positions from which they can create and support a family unit, it is our civic obligation to have an established specific policy adaptable to the industry by which these cases can be selected and placed to mutual advantage.

I am indebted for their collaboration to my associates in the Medical Department of the Edward G. Budd Manufacturing Company and Budd Wheel Company of Philadelphia and Detroit, and Dr. A. G. Beckley, our medical consultant in Philadelphia.

OPHTHALMIC CONDITIONS OF CHILDREN IN THE RURAL PARTS OF MICHIGAN

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Among the weekly reports submitted by the various county public health nurses, under supervision of the Children's Fund of Michigan, were found suggestions to the effect that many children in their rural communities were in the need of eye examinations. Accordingly, the Trustees of the Children's Fund of Michigan voted an appropriation which permitted a three months program to investigate the eye conditions in the various rural parts of Michigan. Feeling that this need was greatest in those counties which were farthest from large cities it was decided to commence first in them. The counties selected accordingly were Newaygo and Osceola, which together have an approximate population of about 21,000. The bulk of the population is approximately fifty miles and thirty miles, respectively, from Grand Rapids, Michigan (150,000 pop.), and Muskegon, Michigan (50,000 pop.).

The work was commenced on September 25, 1930, and was concluded on December 31, 1930. The program adopted was as follows: The first three days of each week were spent in refracting and examining the children. Instillation of drops, fitting and delivering the lenses was done by my assistant, who was especially trained for this work. During the last three days of each week she delivered the glasses, compiled our records and made preparations for the following week. In addition we were assisted by the nurses of the two counties in which the work was carried on. The work of the nurses in our program consisted of the following: Examinations were made by them of all the school children (total 5,168). All those who had complaints suggestive of eye strain or defective vision were urged to consult an ophthalmologist. It is of interest to note that although many of the examinations by the nurses were done as far back as nine months before our work commenced, less than 5 per cent actually consulted an eye specialist. In all, we examined over 800 children, and it is safe to say that 150 did

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not come in for one reason or another. Necessary transportation arrangements were also made by the nurses. No small credit is due these two women, for it was due to their tireless work that we were enabled to examine so many children in forty-four working days.

Newaygo county, which had the bulk of the population (17,000) was first selected. Our headquarters in this county were located at the Court House in White Cloud, where several rooms were placed at our disposal. Our equipment was similar to that found in the average opthalmologist's office—we used the Standard Illuminated Charts. Because of the fact that the visions taken by the nurse were often under unsatisfactory lighting conditions, we recorded the visions found by ourselves under uniform standard lighting conditions. We succeeded in examining about 20 patients a day. Included in our group were 18 pre-school children, as well as 10 post-graduate high school students (normal school students). Two per cent homatropin was used as the mydriatic. In cases where accommodation was found to be present after instillation, 1 per cent atropin was instilled and the patient was examined the following day. Although homatropin was not deemed the ideal mydriatic, nevertheless it was found to be the most expedient. At first we intended to use atropin but this idea was discarded for a number of reasons: (1) Our nurses informed us that many of the parents were quite illiterate and hence that it might not be safe for them to use atropin. (2) Many of the parents were prejudiced against mydriatics, thinking them to be dangerous. In order to dispel any false impressions a routine letter was sent to each of the parents informing them of the need of a mydriatic, its benefits and harmlessness. In spite of this a certain number stayed away for this reason. For the most part glasses when found to be necessary were prescribed on the basis of mydriatic findings. In about 5 per cent of the cases, a post-mydriatic test was found to be advisable and done. Frames, when glasses were prescribed, were fitted by Miss McIntyre, who subsequently delivered them herself.

Glasses were furnished free to indigent children and the actual cost of the glasses was charged those who could afford to pay. Judging from our records, over 80 per cent of the children were found to be indigent. No doubt the present financial depression was a contributing cause to the high degree of indigency. As has been previously mentioned the patients seen at the clinic consisted of two types: (1) Those complaining of defective vision and (2) those with complaints which the nurse thought might be attributable to eye strain. In addition, the pre-school children were examined at the instigation of their parents, even though there were no complaints. Below is a brief classification of the majority of the complaints based on the findings in 809 children. A number of other children were examined whose records are not included due to the fact that complete data were not obtainable for one reason or another.

Complaints	*Total*	*Percentage*
Visual complaints (one or both eyes)	559	69.0
Headaches	556	68.0
Blurring (while reading)	250	30.0
Tearing	193	23.8
Blepharitis	72	8.9
Hordeolums	71	8.7
Granular lids	67	8.2
Discharge	57	7.0
Photophobia	53	6.5
Dizziness	53	6.5
Squints	47	5.8
Diplopia	27	3.3

As the classification shows, visual disturbances of either one or both eyes, headaches, tearing and blurring while reading, were given as the most common complaints in the order mentioned. 556 children gave headaches as one of their complaints, and of these 556 children, 453 were prescribed glasses. It should be borne in mind, though, that some of these children who complained of headaches had other eye complaints. It is of interest to mention, however, that of 479 children who had 20/20 vision 164 were prescribed glasses where headaches alone was the complaint. There is no doubt that headache is one of the most common causes of complaints in children and that it is certainly advisable to rule out eye strain as a cause before more extensive examinations are undertaken.

The following is a résumé of the children examined based on ages:

Age	*Number of children examined*	*Number of glasses prescribed*
5	18	10
6	38	22
7	38	24
8	54	35
9	60	46
10	86	58
11	84	59
12	93	60
13	84	58
14	81	65
15	65	40
16	49	30
17	36	29
18	12	10
19	10	8
20	1	1

The visions as well as subsequent visions obtainable after correction are listed below. Our classification of visions is based on that of the better eye.

Number of children	Percentage	Uncor. vision	No. glasses prescribed	Visions improved to: 20/20	20/30	20/40	20/50	20/60	20/80	20/100	20/200	F. C.
479	59.2	20/20	265	265								
163	20.1	20/30	128	120	8							
41	5.0	20/40	41	26	15							
42	5.1	20/50	41	29	6	3	3					
12	1.4	20/60	12	11	1							
4	.5	20/80	4	3	1							
39	4.0	20/100	37	25	4	3	4			1		
27	3.3	20/200	25	15	3	2	1	2		2		
2	.2	Finger Counting	2	1								1
809			555	495	38	8	8	2		3		1

The classification as has been mentioned is based on the vision of the better eye. It is for this reason that the percentage of uncorrected 20/20 vision is 59.2 per cent. Actually 305 instead of 479 had a vision of 20/20 in both eyes. Most of the children, as can be seen from the above mentioned figures, were brought up to 20/20 vision following correction. Out of 330 children whose vision was 20/30 or less, 230 of them were raised to 20/20.

The actual amount of pathology seen was very small and consisted of the following: Interstitial Keratitis (1); Bilateral dislocated lenses (1); Phthisis Bulbi (1); Rupture of choroid (1); Leukoma of cornea and atrophy of eye, following knife injury (1); Traumatic dislocated lens and subsequent amblyopia (1); Chorio-retinitis bilateral (1); Choked disc (1); Primary atrophy of both discs (1); Unilateral atrophy of temporal aspect of optic disc (1); Several cases of corneal scars, and Progressive Myopia (3).

In all forty-seven squints (forty-four internal and three external) were seen. Of this number eight were already wearing glasses, whereas forty-five were prescribed glasses by me; two cases were present where no refractive error was found. In quite a few instances more than one member of a family was found to be suffering with a squint. In fact, in several families as many as three children had squints. Because of this condition several of the parents brought into the clinic some of their other children of pre-school age. Some of these pre-school children had even higher errors than their brethren who had squints, and I believe it is safe to assume that at least some of them would have developed a squint; this they might do anyhow but their chances are less and even if they do the amount of deviation will be a whole lot less.

Previously it has been mentioned that eighteen children of pre-school age were examined. These children had no particular complaints. They were brought in by their parents, who wished to avail themselves of the opportunity of getting these youngsters examined. Of eighteen examined ten were prescribed glasses. The prescriptions of these youngsters were as follows:

$+0.25+1.00\times 75$
$+1.00+0.50\times 75$
$+1.25$
$+1.50$
$+1.75+0.50\times 75$
$+1.75+1.00\times 80$
$+2.00+0.50\times 90$
$+2.25+0.25\times 75$
$+3.25+0.25\times 90$
$+6.00+1.00\times 105$

That the refractive error can be very high and 20/20 vision be maintained is borne out by the following chart. Prescriptions of 265

children with 20/20 vision prescribed glasses were:

Number	*Errors*	*Number*	*Errors*
5	+0.25	4	+2.00
1	+0.25 +0.25 × 75	1	+2.00 +0.12 × 90
1	+0.25 +0.25 × 80	2	+2.00 +0.25 × 75
3	+0.25 +0.25 × 180	1	+2.00 +0.25 × 80
6	+0.50	1	+2.00 +0.25 × 90
2	+0.50 +0.25 × 75	1	+2.00 +0.75 × 75
1	+0.50 +0.25 × 85	1	+2.00 +0.75 × 85
3	+0.50 +0.25 × 90	5	+2.25
1	+0.50 +0.25 × 105	1	+2.25 0.25 × 75
1	+0.50 +0.37 × 80	1	+2.25 +0.25 × 80
1	+0.50 +0.50 × 60	1	+2.25 +0.37 × 75
1	+0.50 +0.50 × 80	1	+2.25 +0.75 × 90
3	+0.50 +0.50 × 90	1	+2.50
10	+0.75	1	+2.75 +0.75 × 80
1	+0.75 +0.25 × 60	2	+3.00
4	+0.75 +0.25 × 90	1	+3.25 +0.50 × 60
1	+0.75 +0.50 × 70	2	+3.50
1	+0.75 +0.50 × 75	1	+3.50 +0.75 × 75
1	+0.75 +0.50 × 85	1	+3.75 +0.50 × 90
3	+0.75 +0.50 × 90	2	+4.00
38	+1.00	1	+4.25 +0.50 × 75
3	+1.00 +0.25 × 75	1	+4.50 +0.50 × 90
1	+1.00 +0.25 × 90	1	+5.00 +0.50 × 85
1	+1.00 +0.25 × 105	1	+5.75 +0.25 × 45
1	+1.00 +0.37 × 105		
1	+1.00 +0.37 × 180		
2	+1.00 +0.50 × 75	1	+0.25 × 60
4	+1.00 +0.50 × 90	1	+0.25 × 95
1	+1.00 +0.75 × 90	2	+0.25 × 105
1	+1.00 +0.75 × 95	1	+0.50 × 90
1	+1.00 +1.00 × 90	1	+0.50 × 120
1	+1.00 +1.00 × 180	3	+0.25 +0.50 × 75
28	+1.25	4	+0.25 +0.50 × 90
4	+1.25 +0.25 × 75	1	+0.25 +0.50 × 120
1	+1.25 +0.25 × 85	2	+0.50 +0.50 × 75
8	+1.25 +0.25 × 90	3	+0.50 +0.50 × 90
1	+1.25 +0.50 × 45	1	+0.75 × 75
1	+1.25 +0.50 × 75	1	+0.75 × 90
1	+1.25 +0.50 × 85	1	+0.75 × 105
2	+1.25 +0.50 × 90	1	+0.25 +0.75 × 90
1	+1.25 +0.75 × 90	1	+0.50 +0.75 × 75
19	+1.50	1	+0.50 +0.75 × 80
1	+1.50 +1.12 × 90	1	+0.50 +0.75 × 85
1	+1.50 +1.25 × 75	1	+0.50 +0.75 × 90
2	+1.50 +1.25 × 90	1	+0.75 +0.75 × 60
3	+1.50 +0.50 × 90	1	+0.75 +0.75 × 90
1	+1.50 +0.75 × 95	1	+0.75 +0.75 × 105
1	+1.50 +0.75 × 105	1	+1.00 × 60
10	+1.75	1	+0.50 +1.00 × 85
2	+1.75 +0.25 × 90	1	+0.50 +1.25 × 95
1	+1.75 +0.50 × 75	1	+0.50 +1.50 × 85
1	+1.75 +0.50 × 85	1	+1.50 × 90

Strange as it may seem a number of children were found with errors from three to five diopters and yet their complaints were quite negligible. On the other hand others with the smallest errors complained most bitterly. Every case is therefore a problem unto itself.

As has been previously mentioned most of the children who were examined by the nurses had been urged to consult an ophthalmologist. Less than 5 per cent actually did so. Of all the children examined only forty-seven were found to be wearing glasses and of those only ten were prescribed under a mydriatic. Some of the children were fitted by mail, others by a representative of one sort or another who travelled from town to town. In some cases several members of the same family alternated wearing the same pair of glasses. In short, the condition of affairs was not found to be conducive to good health. There is no doubt in my mind that many a child in these communities regarded as stupid or mentally deficient would greatly improve after the correction of visual defects.

The three months study certainly proved the need of some sort of a program whereby children in rural communities be examined by an ophthalmologist. How best to solve this problem I am not prepared to say at this time. One thing is certain: many thousands of children in rural communities are neglected and a great deal of amblyopia is occurring which can be prevented.

I want to acknowledge my utmost thanks to Dr. B. W. Carey, Medical Director, for his coöperation and assistance; to Mr. W. J. Norton, the Executive Director of the Children's Fund of Michigan; to Miss Andrews and Miss Hurt, the County Nurses; to Miss McIntyre, my Assistant, and to Miss Keppler, my secretary.

870 MACCABEE BLDG.

CERVICAL RIBS

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The infrequency with which cervical ribs are met with, or at least recognized and reported, has caused me to believe that more attention should be called to this distressing but readily relieved anomaly.

The fact that I have had occasion to operate successfully upon four cases in the last three years (two of my own and two referred) makes me wonder if many cases are not overlooked. I have been in active practice nineteen years and these four cases are the only ones I have recognized, and many of my colleagues of whom I have inquired say they have never recognized or heard of one.

The present day surgical works give cervical ribs slight mention or but a passing paragraph.

To review the anatomy according to Gray, "Cervical ribs are an abnormal outgrowth of bone from the anterior roots of the transverse processes of the seventh cervical vertebra." They are of not infrequent occurrence and are important clinically because of the obscure nerve and vascular disturbances to which they give rise. They vary in size and length, are single or bilateral, extending occasionally as far as the first thoracic rib.

Symptoms.—The symptoms naturally depend upon the size, length and direction of the rib development. Pressure upon the subclavian artery may produce atrophy of the arm and finger and even gangrene. Pressure upon the brachial plexus may give rise to severe pain in the arm and fingers accompanied by trophic and functional disturbances.

Late cases probably will not be difficult to diagnose, but it is most important to recognize the trouble before the injury is too extensive if complete recovery is to be expected. A patient who complains of persistent, even though not severe, tingling and anesthesia and neuralgic pains in the arm and hand should have an X-ray examination of the cervical vertebræ. These symptoms continue with more or less persistence and increased severity until there is a loss of strength in the affected arm and hand, with a wasting of the muscles between thumb and index finger. In the cases which I saw none of the symptoms was severe early in the trouble, and no patient complained of pain or soreness in the neck. Nor was there any noticeable growth or enlargement in the cervical region. All of the patients were treated for some time for neuritis, neuralgia, rheumatism, etc. They passed through several hands and finally came back to their family physician undiagnosed. An X-ray examination was not made until the muscular wasting was alarmingly severe.

I will report one of the cases, my own, which gives a history similar to the others operated:

Mrs. G. W., age 30, well nourished, family history negative. Since leaving bed after confinement case, had felt a tingling picky sensation in the left arm and hand accompanied by more or less steady aching. Aspirin would relieve the pain temporarily. She noticed a progressive loss of strength in the hand and arm. She was unable to milk cows. She would drop a pail of water if she attempted to lift it. There was a slight wasting of the muscles of the left hand between the thumb and index finger. Having seen other cases of cervical ribs, I was suspicious of the case and had an X-ray examination, which showed the transverse process of the seventh cervical vertebra to be about two and three-fourths or three inches long. Operation was advised. Finally after about ten months she returned and decided to have an operation. At this time the arm was practically useless, and the muscles especially between the thumb and index finger, badly atrophied. There was no soreness or palpable enlargement in the cervical region. I removed a cervical rib about 2½ inches long, first stripping off the periosteum, as the tip of the rib seemed adherent to the subclavian artery. The lining of the periosteum was carbolized to prevent possible recurrence of the bony formation. This was six months ago. She is rapidly regaining the use of her arm. All pain has subsided.

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ARTERIAL HYPOTENSION*

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Arterial tension is a very important physiological factor in the maintenance of a balanced circulation. This balance may be disturbed by chronic hypertension and also by hypotension. Hypotension is found in a large group of individuals who may develop symptoms ranging from general weakness and fatigue, to medical or surgical shock, which occasionally proves fatal. The maintenance of a balanced circulation in either hypertension or hypotension depends on (1) the caliber of the blood vessels, (2) the pulse rate and (3) the force of the heart beat. All these three factors are controlled by the autonomic nervous system. Hypotension may be considered to exist if the systolic pressure is below 100 to 105, the diastolic ranging from 50 or less to 80, depending on the existing pathology. We may have a relative hypotension with systolic figures in the hypertensive range due to vasomotor paralysis, shock, or myocardial failure. A careful study of the arterial tension with accompanying circulatory findings as well as functional nervous symptoms is necessary to determine if a real or relative hypotension exists.

Definite types of hypotension can by the use of these measures be recognized and classified, and the therapy may be varied accordingly. The most disastrous type is that of shock either medical or surgical. If not promptly controlled sudden death may occur. This condition is precipitated by a vasomotor depression or paralysis, accompanied by a marked drop in blood pressure, regardless of whether the pressure was high or low, due to a sudden increase in the vascular bed or capillary dilation, and loss of force in heart beat despite increase in rate. The cause may be loss of blood due to traumatism or surgery, dehydration from various causes such as severe diabetes, toxic influences, the result of severe infections such as pneumonia, influenza, extensive burns, etc. Even an extreme degree of fear or depressive emotional disturbances have been reported as the cause of shock resulting in death. Fundamentally we have capillary paralysis, lack of fluid in the tissues, which lowers blood pressure to unusual levels such as 60 or less, and thus interferes with proper distribution of blood to vital organs, causing extreme prostration and death.

In this condition treatment must be applied promptly. A falling blood pressure, becoming a definite hypotension as before mentioned, is sufficient indication that vigorous therapy is called for, and an increasing blood pressure is the best evidence of relief of shock, whether medical or surgical. For this reason frequent blood pressure records should be made to determine the trend of the patient's condition. In very serious cases readings should be taken every few minutes until a definite upward trend of pressure is established. The most effective measure in severe cases is a blood transfusion of from 300 to 500 c.c. or more of blood, but valuable time may be lost in making proper preparations for this procedure. The best immediate procedure, when preparations for emergency transfusions have not been made, is the intravenous administration of 50 c.c. of 50 per cent glucose. Every physician and hospital should have ampules of this solution at hand for prompt use when necessary. This concentrated solution of glucose brings more fluid into the circulation, is a nutritive aid to the myocardium and thus will serve to increase blood pressure. It may be necessary to follow this procedure with saline infusion in liberal quantity, to which glucose may be added if necessary. Minor degrees of shock may not need these drastic measures, but may be overcome by the use of caffein in rather liberal and repeated doses. Adrenalin may be tried, with caution, but the above measures are more satisfactory. One must not forget the usual physiotherapy, such as application of heat to extremities, rubbing of body, application of pressure to abdomen, all of which serve to equalize the circulation.

The type of hypotension next in impor-

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tance is similar to the first only minor in degree. It occurs in patients who have recovered from severe acute illness such as influenza, broncho-pneumonia, typhoid fever or similar type of infection; also in cases in which some focal infection produces a toxin that depresses the vasomotor system and lowers arterial tension as well as depresses the general tone of the patient. Here the drop in tension may be relative, depending on the pressure existing prior to the etiological factors. The blood pressure is symptomatic of a general condition and is a rather definite measure of the real condition. The patient complains of lack of strength and endurance, dating from the time of his illness. In my experience many cases of this sort present themselves after epidemics of upper respiratory infections in the latter part of the winter season. The systolic pressure is often as low as 80 or 90 with a diastolic of 60 or less.

In this type of hypotension the removal of any focal infection, rest, and perhaps change of climate, to overcome any remnants of acute infection, are in order. In addition an appetizing, blood-building diet is essential, and attention to adequate intestinal elimination, preferably by means of diet and the milder laxative measures. Hydrotherapy, massage and heliotherapy, in conjunction with the above regime, usually result in satisfactory recovery.

The third type of hypotension may also be relative, and is due to failure of myocardial efficiency. This may be precipitated by an active degeneration of the heart muscle from various causes, and may first be noted after an acute illness as in the former group. The long strain of arterial hypertension, obesity with or without hypertension, long standing focal infections and, of course, chronic valvular disease, coronary sclerosis or thrombosis, are the chief etiological factors. The symptoms are those of myocardial failure in varying degree. The systolic pressure drops much more than the diastolic and we have a definite decrease in pulse pressure, which may often be as low as 20 as compared with a normal of 40 or 50. Here the therapy is that for myocardial failure such as rest, digitalis and mild forms of physiotherapy, especially massage, sun baths, etc.

The hypotension of Addison's disease must also be mentioned, as in these cases we see a marked persistent hypotension and marked asthenia. The disease is usually due to tuberculosis of the suprarenal glands and as it progresses the asthenia and hypotension increase together with other symptoms, especially gastro-intestinal in nature, until death results. It is interesting to note that some of the symptoms are in the nature of shock, and with the hypoadrenalemia, a hypoglycemia and low basal metabolism occurs. A characteristic pigmentation of the skin is noted in most cases and is progressive with the increasing hypoadrenalemia.

The treatment of this type is usually of little avail. The most potent remedy is suprarenal extract in large doses. In view of the hypoglycemia, the use of sugar between meals with the suprarenal extract seems logical.

The last form of hypotension that I wish to discuss occurs in a large group of individuals who have a pressure of about 100 or less systolic and a diastolic of 55 to 70. Most of them belong to the asthenic type of individual. Their capacity to do is limited. Among them may be many that have no complaint as long as the stress and strain of modern civilization is limited to their constitutional capacity to carry on. They recognize their inability to tolerate the drive in work and play that more robust individuals tackle with apparent impunity. As long as they live within their limitations all goes fairly well, but sooner or later they either become ambitious to keep up with someone of the robust type or they are forced to venture beyond their physical capacity in carrying on their occupation with its responsibilities and worries. Others, by accident or otherwise, become subject to extreme anxiety, worry or fear precipitated by illness in the family, domestic or financial troubles. These asthenic individuals do not tolerate these conditions, which force them to go beyond their limits, and as a result the strain affects the autonomic nervous system with marked depreciation in health. The sympathetic side is the driving force in all our activities, emotional, physical or otherwise. Eventually fatigue of the sympathetic nervous system occurs which finally results in an atonic condition and then a hyper-irritability or hypertonus of the parasympathetic or vagus side occurs. In this condition called vagotonia, we have a striking group of symptoms including hypotension. Clinically, these cases come to us complaining of an overwhelming fatigue

that occurs with very slight effort, indicating a very limited endurance for the ordinary activities or duties of life. They have often been told that their blood pressure is low and is the chief cause of their trouble, or they have been advised that they have neurasthenia and that they must either rest or exercise to recuperate. The hypotension is the result of sympathetic fatigue and a resulting hypoadrenalemia. The fatigue or lack of endurance can be explained by a hypoglycemia due to the over-stimulation by the parasympathetics or vagus resulting in increased secretion of the pancreas including insulin. Some of these cases, after unusual effort or strain, will present symptoms bordering on mild shock, reminding us of the symptoms that occurred from overdose of insulin in the diabetic before the insulin unit and proper dosage had been developed. In most cases presenting this unusual fatigue, the fasting blood sugar is below 90, and if we subject them to the glucose tolerance test the blood sugar curve will practically always be lower than normal and usually in the second or third hour a definite hypoglycemia of 70 and occasionally as low as 45 or 50 mgm. per 100 c.c. of blood is found. During the course of the sugar tolerance test some will have a typical hypoglycemic or hyperinsulin reaction. At such times the arterial tension reaches a level often as low as 80 systolic. Another interesting finding is that these patients all have a definite hypometabolism, often as low as —15 or —20. This is probably best explained by the fatigue of the sympathetic side of the autonomic nervous system, causing a deficient activity of the thyroid, as over-activity of the thyroid is always associated with an over-activity of the sympathetic. Nearly all these cases have a spastic colon due to the hyper-irritability of the vagus, and with it a definite constipation which tends to aggravate the fatigue and other symptoms of a depressed vasomotor system.

This group of symptoms may develop in the sthenic type of individual as a result of some very unusual physical and mental strain. Such a case recently under observation presented all the foregoing findings, with a blood pressure of 80 to 100 systolic, a fasting blood sugar of 80 mgm. and in the glucose tolerance test a blood sugar curve dropping to 62 at about the third hour. Fatigue was associated with dizziness and palpitation of the heart, etc. The patient had no pronounced symptoms of this trouble until three years ago when he had the following experience. While fishing at the seashore his boat capsized in an outgoing tide. He was a fair swimmer but there was no chance of getting any help within a mile, and the physical effort of keeping above water, and the calling for help, and the terrible fear of drowning, resulted in a state of collapse when rescued. Since then the symptoms of extreme fatigue had recurred practically every day, and always if he took even a moderate amount of exercise or if worried more than usual by business, or other affairs.

The therapeutic management of this type of hypotension is not as simple as in the other types mentioned. A great deal of patience is required by patient and physician because it takes time to correct the imbalance that exists in the autonomic nervous system.

In the first place these patients must adopt a program, regulating their activities so as to remain always within their limitations and thus avoid the unusual fatigue to which they are subject. Many so-called neurasthenics from this group have been told to exercise to build up their health, with disastrous results. Rest in bed may be necessary in some cases. If the patient just referred to had gone to bed for a week or more after his fishing experience, the nervous imbalance might have been prevented.

Because of the tendency to hypoglycemia and associated fatigue, frequent meals are indicated. The total intake of food may not need to be increased unless the patient is underweight, but by taking food containing a small amount of easily assimilated carbohydrate between meals and at bedtime, the hypoglycemia may be avoided. Some of these cases have already learned that the taking of food relieves them promptly of the sense of fatigue. I usually recommend orange juice or some other fruit in season, a few pieces of candy, or perhaps some buttermilk. Because of the hypoadrenalemia, suprarenal extract is given, often in large doses—in severe cases as much as 30 or more grains a day. This program must be carried on over a period of months and sometimes years in the severe cases in order to overcome this symptom-complex. This is especially true in the cases belonging to the class usually called constitutionally deficient.

In the cases occurring in the fairly robust

individual as a result of overwork or some acute infection such as influenza, the program here outlined gives rather prompt results.

By a careful study of our neurasthenics, I believe we shall find many belonging to this class who have a definite pathology suggested by the arterial hypotension, hypoglycemia, hypometabolism, and these findings should be a definite aid in instituting proper therapy. It is interesting to note that the above findings are recognized in Addison's disease, and the therapy suggested is very similar.

ANEMIA IN CHRONIC NEPHRITIS*

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Anemia is commonly observed in chronic nephritis. Clinical evidence points toward decreased function of the bone narrow rather than increased blood destruction, the anemia resembling a simple chronic type with low color index, a low percentage of nucleated red blood cells and a loss of regeneration of the bone marrow with little evidence of reticulated cells. The entire reaction of the blood in nephritis suggests a toxic effect on the blood-cell-forming apparatus.[1] Some cases present the features of an aplastic anemia with complete absence of immature and regenerative types of cells and an absolute lack of response to treatment. While hematuria may and does occur, it seems to bear no relationship to the anemia. In patients with hemorrhagic nephritis anemia is usually absent, or present in only slight degree. Severe anemia is frequently found in cases where no hematuria has been observed.

The blood platelets as a rule show no change except in association with severe anemia. Brown and Roth[2] found the blood platelets averaging 152,000 in eight cases of chronic nephritis with severe anemia. They conclude that this condition may have some bearing on the hemorrhagic tendency in some of the more severe cases.

In chronic diffuse nephritis we have progressively diminishing renal function and marked cardiovascular disease, commencing as a rule in an individual less than forty years of age. In the end stage where probably three quarters or more of the tubules and glomeruli have been destroyed, these cases show all the signs of renal insufficiency. In spite of a restricted protein intake, the blood nitrogen rises to high levels, and an anemia which early in the disease is less severe than one might expect from the appearance of the patient, gradually becomes more pronounced, and adds to his extreme disability. Particularly in cases of acute nephritis, and occasionally in chronic nephritis with edema, we are surprised to find the blood count and hemoglobin normal, when the appearance of the patient suggests a definite anemia. The pallor is in these cases associated with edema, and probably secondary to vasoconstriction. In severe chronic nephritis without edema, the skin and mucous membranes have a yellowish tinge, not unlike some cases of pernicious anemia. In these cases a close parallelism was found to exist between the anemia and the blood nitrogen. Brown[3] found that hemoglobin readings of 60 per cent or less have approximately the same serious prognosis as have blood creatinin values over 5 mgm. per 100 c.c. When the patient is in the compensated stages of the disease there may be marked anemia with a normal blood creatinin. With the onset of renal insufficiency, however, the anemia is usually severe and closely parallels the blood nitrogen. Repeated blood examinations may then be used as a valuable index of renal function.

The progressive nature of chronic nephritis, together with the close relationship between the blood nitrogen constituents and the secondary anemia, is well exemplified by the following case:

Case 1.—A young woman, 21 years of age, came

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for examination on June 25, 1927, complaining only of slight fatigue. The physical examination was negative, except for a slight hypertension—140/95. The specific gravity of the urine was low, and there was some loss of power of concentration. A trace to a heavy trace of albumin with negative microscopical findings was present at several examinations. Blood chemistry: non-protein nitrogen 43.3; urea 25.8; creatinin 1.5 mgm. per 100 c.c. Blood: Red cells 4,250,000; white cells 8,100; hemoglobin (Dare) 80 per cent. Three months later the urine showed the same restricted variation in specific gravity; the albumin increased to 3 per cent with occasional hyaline casts. Non-protein nitrogen 56.3; urea 31.7; creatinin 2.8 mgm. per 100 c.c. Blood: Red cells 3,780,000; white cells 8,100; hemoglobin (Dare) 77 per cent. Four months later the blood creatinin had increased to 3.2 mgm. per 100 c.c. with a definite increase in the secondary anemia: Red cells 3,040,000; white cells 8,100; hemoglobin (Dare) 70 per cent. Her only complaint was fatigue. There was no evidence of cardiac hypertrophy, no changes in the retinal arteries, and the hypertension remained about the same.

June, 1930, three years after her initial examination, she returned with the findings of advanced chronic nephritis: cardiac hypertrophy, hypertension —blood pressure 180/120, extensive arteriosclerosis, and many flame-shaped retinal hemorrhages. The specific gravity of the urine was fixed at 1.009; there was a large amount of albumin with hyaline and granular casts. Blood chemistry: Non-protein nitrogen 110; urea 66.2; creatinin 5.2 mgm. per 100 c.c. Corresponding to the increase in the blood nitrogen constituents, we have a marked increase in the existing anemia: Red cells 1,620,000; white cells 7,200; hemoglobin 49 per cent.

The anemia of chronic nephritis occasionally precedes the other symptoms, and is often of definite diagnostic value in calling attention to possible insufficiency of the kidneys. Scarlett[4] has reported four cases of severe chronic nephritis with uremia in which hypertension, cardiac hypertrophy and retinal changes did not occur, and in which a simple anemia was the single cardinal finding. We have recently studied a case of chronic nephritis with renal insufficiency and a severe anemia with a gradual return to a compensated stage of the disease and a corresponding improvement in the blood nitrogen and the anemia.

Case 2.—The patient is a married man, 39 years of age, who reported to the clinic November 24, 1929, complaining of constant localized tenderness in the epigastrium with moderately severe dull pain in the same area not definitely related to food, and of two years' duration. He is never awakened at night with pain but does have frequent heartburn relieved temporarily by soda. On one occasion a roentgen diagnosis of duodenal ulcer with pylorospasm was made, and the patient was placed on an ulcer regime without relief from symptoms. The family history was negative except that his father died of uremia at the age of forty-five. Previous history of ailments was negative.

The appearance of the patient suggested a moderately severe anemia which was verified by the following blood findings: Red cells 2,100,000; white cells 8,700; hemoglobin (Dare) 61 per cent; color index 1.2. The urine had a low specific gravity, albumin double plus, occasional hyaline casts, and a few pus cells. Microscopic examination for blood cells was negative. Wassermann test was negative. Blood chemistry: Non-protein nitrogen 61.7; urea 39.5; creatinin 3.8 mgm. per 100 c.c. A concentration dilution test showed a fixation of specific gravity with a loss of power of the kidney to concentrate, the highest specific gravity reading 1.009. Following the concentration test the patient developed anuria, headache, blurred vision and a pain in the upper abdomen similar to the pain of which he complained but more severe and accompanied by vomiting. The phenolsulphonephthalein test with catheterized samples of urine at the end of one and two hours showed only a trace of the dye in each sample. With repeated daily intravenous administration of glucose (20 per cent) and Ringer's solution he made a gradual recovery and two weeks later the phthalein elimination had increased to 10 per cent in two hours. On physical examination there was no enlargement of the heart, and the blood pressure was only slightly increased—145/90. The fundus examination showed areas of exudate with a fairly high degree of retinal arteriosclerosis.

Since the abdominal pain could not be definitely explained, he was subjected to a thorough X-ray study of the gastrointestinal tract with negative findings except for severe pylorospasm. There was a moderate hyperchlorhydria. A careful search failed to reveal any possible source of bleeding to account for the severe anemia. During the following month the patient was given a basic diet with plenty of orange juice, kept at complete rest, and received no medication. He gradually improved in strength, and the abdominal soreness practically disappeared. There was a slight improvement in the blood chemistry: Non-protein nitrogen 45.5; urea 26.5; creatinin 2.7 mgm. per 100 c.c. The anemia also improved somewhat: Red cells 2,800,000; white cells 8,000; hemoglobin (Dare) 65 per cent.

Three months later the patient returned for further observation complaining of only occasional epigastric pain. The specific gravity of the urine remained fixed at a low level, albumin reduced to a trace, with occasional hyaline casts. The renal efficiency increased to 26 per cent of the dye returning in two hours. Blood chemistry: Non-protein nitrogen 39.8; urea 19; creatinin 1.6 mgm. per 100 c.c. With this improvement in the general condition there was a corresponding improvement in the blood count: Red cells 3,490,000; white cells 8,400; hemoglobin (Dare) 80 per cent.

Ten months after the original examination the urine showed the same findings. The blood chemistry was normal and the anemia had entirely disappeared: Red cells 4,630,000; white cells 8,400; hemoglobin (Dare) 87 per cent. The renal efficiency test showed an elimination of 40 per cent of the dye in two hours. His general condition had improved and the gastrointestinal symptoms had entirely disappeared.

Acute glomerulonephritis complicated by purpuric disease may pass into the chronic stage and exhibit severe anemia. Osler mentions a patient who developed acute nephritis during an attack of visceral purpura at the age of twelve years, which passed into the chronic form with hypertension and hypertensive retinitis. The author has recently studied such a case and presents the following case report:

Case 3.—A young male, fifteen years of age, reported to the clinic April 27, 1930, complaining of

shortness of breath, generalized edema and anemia. The family history was negative except that the father had chronic Bright's disease. Following a period of fatigue extending over a few weeks he had a short fainting spell and was sent home from school. A few hours later he complained of severe generalized colicky abdominal pain with a predilection for the right side of the abdomen. A diagnosis of acute appendicitis was made and immediate surgery advised. On account of the finding of a purpuric rash on the legs as high as the knees and also around the elbow joints, operation was postponed. Twenty-four hours later the abdominal pain had disappeared, while there was visible and microscopic evidence of blood in the urine with a high degree of albuminuria and casts of all descriptions. The purpuric rash gradually disappeared but the urinary sediment remained unchanged and gradually, during the following month, there appeared some generalized edema, particularly of the face and legs, and considerable pallor. Five months after the initial fainting spell he presented himself for examination.

Aside from the edema and evident anemia, physical examination showed a marked cardiac hypertrophy without evidence of valve lesions, a moderate tachycardia and hypertension—180/110. The fundus examination showed a general edema of the whole eye grounds with a small amount of exudate about each macula and a few small flame-shaped hemorrhages near the nerve of the right eye. The urine had a slightly restricted range of variation in the specific gravity, 30 per cent albumin, several hyaline and granular casts, many pus and blood cells per high power field. Blood chemistry: Non-protein nitrogen 37.8; uric acid 3.7; total protein 4.6; serum albumin 2.3; serum globulin 2.3; cholesterol 215 mgm. per 100 c.c. Blood: Red cells 2,240,000; white cells 9,600; hemoglobin 50 per cent (Dare). Blood platelets 152,000. In spite of all therapeutic measures, including a high protein diet, thyroid extract, purine base diuretics, etc., the general edema, hypertension and anemia remained unchanged. We feel this case illustrates purpura complicated by acute nephritis rapidly progressing through the subacute and subchronic stages into true chronic nephritis.

The distinction between purpura with acute nephritis and acute nephritis with purpura is mainly of academic interest. Blood transfusion as treatment for the purpura might be considered, but according to Osman's[5] experiences this operation may be attended by such grave risks, where there is a pre-existing renal lesion, that postponement should be advised in all but extremely urgent cases.

Pratt[6] found that the acute nephritis of Henoch's purpura occurs in three forms: (1) Acute course, dropsy and death from uremia in three months. (2) The blood and albumin disappear from the urine with complete recovery (most of the cases belong to this group). (3) The nephritis becomes chronic. According to Pratt, acute nephritis is especially liable to occur in those cases of purpura in which abdominal pain is pronounced. The cause of the gastrointestinal symptoms is unknown. Osler[7] believed the pain to be associated with a localized urticarial swelling of the gastrointestinal wall.

Usually there is no anemia in cases of essential hypertension without gross arteriosclerotic changes and without evidence of renal or cardiac failure. Fishberg[8] found that with the development of severe arteriosclerosis, particularly of the coronary arteries, secondary anemia often appears and may be marked. Cardiac insufficiency not associated with valvular disease, when unusually protracted, is frequently accompanied by an anemia which may be severe and occasionally resembles the blood picture of pernicious anemia with a high color index.

Case 4.—A woman, 55 years of age, came under our observation, May 11, 1929, complaining of fatigue of two years' duration, extreme weakness, dyspnea and edema of the legs. During the past two years she had been treated for cardiac decompensation on two occasions. Physical examination showed a rather slender frame with considerable pallor of the skin and mucous membranes. There was marked cardiac dilatation, a prolonged soft systolic murmur at the apex transmitted towards the axilla. There was a small amount of free fluid in the abdomen and considerable edema of the legs. The urine had a normal range of specific gravity, a slight trace of albumin and negative microscopical findings. There was no accumulation of nitrogen materials in the blood. The blood count was as follows: Red cells 3,270,000; white cells 7,200; hemoglobin 68 per cent (Dare).

In spite of complete rest, thorough digitalization and the various diuretics, her condition grew worse. The edema increased and the anemia became more pronounced. The final blood reading three months after her admission and a week before her death was: Red cells 2,200,000; white cells 10,300; hemoglobin 66 per cent. All of the blood counts had a positive color index.

Autopsy examination showed cardiac dilatation and hypertrophy with no evidence of arteriosclerosis. The coronary arteries were normal. There was fatty degenerative infiltration of the heart with chronic fibrous myocarditis. There was chronic passive congestion of all the organs. Sections of bone marrow showed no pathological process.

In certain cases the anemia of chronic nephritis is increased by a too rigid low protein diet. While most people eat too liberally of protein foods, nothing is to be gained by subjecting those cases of chronic nephritis who can dispose of the waste products of protein metabolism to a very rigid low protein diet. It has been recently shown that not only profound metabolic changes but also a mild anemia occur in normal men simply on a reduced diet.[9] Iron starvation may lead to defective blood formation, and so anemia may develop from taking a strict milk diet over too long a period, owing to the small quantity of iron in the milk. Since the kidney efficiency may vary from time to

time it is important to estimate the blood urea, and repeat the various function tests, making dietetic alterations as necessary to keep within the working capacity of the kidney.

In conclusion, with regard to the treatment of the anemia of chronic nephritis, drugs have proved of no value. The general condition is treated by rest, restriction of fluids and salt, to meet the individual case, and a moderately low protein diet depending on the blood chemistry findings, the remainder of the diet being made up of a generous mixture of fats and carbohydrates with an adequate amount of roughage.

SUMMARY

1. Severe anemia of the secondary type is frequently found in chronic nephritis.

2. Repeated determinations of the red blood cells and hemoglobin may be used as a valuable index of renal function in cases of chronic nephritis with severe anemia.

3. The anemia of chronic nephritis occasionally precedes the other symptoms and may prove of definite diagnostic value.

4. Prolonged cardiac insufficiency not associated with valvular disease is frequently complicated by a severe anemia which may resemble the blood picture of pernicious anemia.

5. The existing anemia in chronic nephritis may be aggravated by too rigid dietetic measures.

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MEDICINE IN RUSSIA—AS A LAYMAN SEES IT

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No great industrial development is possible nor the progress of a country assured, without care and thought given to the health of its people, its workers and their families. I was desirous of securing at least a cursory insight of the hospitals and medical situation in Russia: first, because this phase of life has always interested me; second, because my good friend Dr. Andrew P. Biddle had requested me to endeavor to obtain information in reference to certain conditions and their application to the medical profession in Russia at present. For example, the doctor today in Russia is paid a salary by the State and in return must give a certain number of hours daily to the hospital, clinical work and professional calls in the interest of workers needing his service, to whom such services are free. How does the system work out, was what my doctor friend was interested to learn.

It was stated to me that Russia had very limited hospital facilities prior to the revolution, and very little medical attention was available for the proletariat; also that this service has been greatly increased since 1921 and must be constantly further extended.

The best hospital facilities are located in the three principal centers of population—Leningrad, Moscow, Kharkov. As a whole they could not be considered the equal of our good hospitals in America.

In Kharkov, being the first of the three great centers of population in Russia that I visited, I called at a large polyclinic hospital which I was informed was rated as the third in all Russia as regards services rendered. I took an interpreter with me, but

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made no previous engagement, simply calling as a casual visitor. The interpreter went to the office and stated for me the object of my visit. An intelligent appearing nurse was assigned, who took me through the many departments, each of which was in charge of a specialist. Electrical equipment and light-ray apparatus seems to be given a great deal of space and many patients were being treated therewith—infections, rheumatic conditions, nervous disorders, sinus trouble and skin diseases. There was also an extensive department devoted solely to mothers and their babies, another to contagious diseases and one especially for patients suffering from venereal disorders. Of the latter I was later informed that the portion affected by syphilis, at least so far as it applied to the Kharkov district, was approximately 3 per cent.

I was finally conducted to the office of the Chief of Staff, who acts as consultant and has 32 assistant physicians, to each of whom is assigned an attending nurse. This staff applies only to the main polyclinic above referred to, there also being several branches in Kharkov with separate staffs. I asked the Chief of Staff many questions during my stay in his office. He willingly gave of his time and courteously replied to my queries; the interview, of course, was through an interpreter. The following are some of the facts brought out:

The doctors devote about eight hours daily to their duties in the hospitals and clinics. They are all salaried men; the Chief of Staff informed me that he received 400 roubles per month. He also said that he devoted about an equal number of hours to private practice, his office being in his apartment; that his fees were from 3 to 10 roubles, according to the income of his patient. Any one ailing usually goes to the polyclinic for treatment or if a 'phone call is made requiring a visit, if the message is received before noon it is reasonable to assume that a doctor will call during that day, but if the message is not received until afternoon it is doubtful if medical aid will be rendered until the following morning. Under such circumstances, if the patient desired immediate attention it could be had from a physician during his private practice. A form of Red Cross service is also available and an emergency case would be taken care of by dispatching an ambulance from the nearest medical station and bringing the patient to the hospital. It was stated that all diseases are classified into different sections and a specialist in charge of each.

A woman worker who becomes pregnant reports at the polyclinic so that her physical condition may be determined from time to time and proper care administered. She is allowed time off for two months prenatal and two additional months following the birth of her child, and with full allowance of her wages. The hospital also supplies her with 50 roubles wherewith to buy clothing, napkins, bedding, etc., for the babe. The child when born is immediately issued a salary card and paid 9.30 roubles per month until nine months old. Thereafter government kindergartens will care for the child while the mother is engaged at her occupation. The medical services to both mother and child are free.

Workers, both men and women, are not permitted to work if infected by venereal disorders. They must be treated and the disease controlled. A vigorous campaign is being waged everywhere against syphilis. In workers' clubs, in schools, in sanatoriums or convalescent homes, and elsewhere, charts and wax figures vividly portraying the ravages of this disease on the reproductive organs and other parts of the body, are conspicuously exhibited.

I finally asked the doctor at Kharkov if he was perfectly satisfied with conditions as they applied to his profession. He replied that his task was the betterment of mankind in Russia and he was content in fulfilling his duty.

A surgeon connected with one of the principal hospitals in Leningrad, of Hebrew extraction, frankly stated that his social condition as a Jew had materially improved in Russia He received 300 roubles per month from the State; he did not practice privately.

In Yalta, Crimea, beautifully situated on the shores of the Black Sea and but a short distance from Sevastopole, I found a very interesting situation. Yalta was the favorite resort of the Imperial court and here was located "Livadia," the former palace of Czar Nicholas II. The hillsides overlooking the sea are dotted with beautiful villas, the former homes of aristocracy. These are now practically all used as sanatoriums and convalescent homes for Russian workers. Sixty-five villas, mansions and hotels are now used for this purpose. They accommodate about 7,000 patients. Livadia is a beautiful

palace overlooking the sea and sheltered from the winds of the north by nearby protecting mountains rising 3,000 to 4,000 feet. The gardens are filled with beautiful trees, shrubbery, roses and flowers, all luxuriant in their growth in this semi-tropical climate. I visited the sanatorium Livadia, at one time the czar's palatial home. I met the doctor in charge, a delightful gentleman; nine years a student in Paris, where he attended the Sorbonne; he also pursued his studies in Berlin as well as in his own country.

The palace and its adjoining buildings accommodate 1,700 patients, and 1,200 were present at the time of my visit, almost entirely Russian peasants. The staff—doctors, nurses and service help—numbered 500. It was just dinner time when I arrived, 2 to 3. The former glorious banquet hall, the adjoining imperial private dining rooms, were crowded with long narrow tables covered with oilcloths and in sharp contrast to the character of the rooms.

The crowd of patients filed in, all looking quite well and strong, and, judging by what I saw them eat, their appetites were equal to that of wood choppers. All were first served soup and a large hunk of bread. You should hear a thousand Russian peasants eating soup, their faces close to the bowl. Next large plates arrived with most generous portions of boiled rice and chicken, a feast that I am sure was rarely their lot when at home. When I remarked to the doctor that each plate contained enough for a family of four, he smiled and said, "Still they complain that they are not fed enough." It was amusing to see them eat; practically all the men sat with their caps on and all were far more adept in handling chicken with their fingers than with knives and forks. When they had finished their meal the table was strewn with the bare bones of chicken.

I later partook of this same wholesome fare, with the doctor, who invited me to dine with him. We ate in one of the smaller dining rooms, the lower portions of the walls panelled in mahogany, the upper decorated in red silk damask. My mind was constantly painting pictures of those earlier scenes that transpired in these same rooms; nobility dining in state; choice linen and silver, exquisite glassware and china, refined service; now what an extreme contrast,—oilcloth-covered tables, the food heaped on platters, no carpets nor rugs, only the bare floors from which the varnish and wax finish had been worn by the coarse boots of the peasants, exposing the grain in the wood of what was once a lovely parquet flooring. The walls of the room were bare, no draperies nor pictures. Some of the arched openings had plain rough board partitions installed with small doorways cut through. I wondered what marble staircases, panelled wood walls, frescoed ceilings, parquet floors, plate glass windows, meant to these peasants. Heavy boots, oilcloth-table covers, coarse table manners, cots to sleep on; what a contrast!

In a room on the second floor were colored pictures and physiological charts illustrating the ravages of syphilis, that these peasants might have clearly brought to their attention the terrors of this disease. Inasmuch as this sanatorium is given over almost entirely to peasants, in another large room were exhibits of cereals and charts illustrating the necessity of intelligent farming made possible by scientific research. Like illustrations were displayed on the subjects of animal husbandry and orcharding.

I later stood on the balcony adjoining the czar's former private sleeping apartments. It commanded a most charming view. Looking through the unobstructed windows I saw rows of cots on which were sleeping patients, for all are required to rest immediately after the noonday meal. What contrasting changes Russia has undergone! How amazing this New Russia!

I visited another sanatorium at Yalta. High up on the mountain side among the pine trees of an extensive forest, have been built two large stone buildings, a modern tuberculosis hospital costing 2,000,000 roubles. Sixty or seventy attendants were caring for approximately 300 patients, the full capacity being 400. I respectfully declined to go through the ward of the most serious cases, but did walk along the lengthy verandas filled with cots and resting patients. Just off the veranda were adjoining bed rooms, each accommodating three patients. In this sanatorium likewise considerable electrical apparatus was installed. A series of small cottages was also being constructed among the pines to care for additional sufferers. Altogether the plant was very modern and well operated.

In addition to the well appointed hospitals

in Leningrad and Moscow there are a surprising number of the finest villas in these cities, which were formerly the homes of Russian nobility, and which are now used as workers' convalescent homes, rest-houses or clubs. The rich interior finish and decorations are mute reminders of the former days of aristocracy; marble staircases and statuary, carved woodwork and silk wall coverings, all in striking contrast to the general appearance and dress of the present occupants of these mansions.

I visited a school of semi-medical character in Nizhni-Novgorod. In a department devoted to gynecology there was a group of students, entirely girls of ages from 14 to 16 years. They were taking a two year course, what appeared to me to be more on the order of the training given our nurses. A medical man was their instructor. There were specimens in glass jars illustrating maternity from conception to birth. There was even a model and a doll baby for illustrating proper birth delivery. These girls, after finishing the course, are required to attend and perform, in the presence of an experienced doctor, twenty-four successful deliveries of babies, after which they are given a certificate and consigned to their field of duty.

THE DOCTOR'S SOCIAL POSITION

The relative social position of the doctor remains about the same, that is his distance from the top and bottom of the social scale; the aristocrats and capitalists, formerly above him, are now below him, while the factory workers, formerly below him, have now in some respects been exalted above him. However, in so far as he is a scientific worker for State institutions, he is as highly regarded as any one in the land. To the extent that he holds back from participation in State activities he is frowned upon. His income is distinctly less than in former times; so is that of every one in Russia except the workers.

Most members of the profession are on government pay. Private practice is not illegal but it is looked upon with disfavor—sometimes favorable, sometimes unfavorable, according to the district and the variance of State programs. Doctors of former fame still have many private patients and enjoy an income larger than that paid to the government heads of the State—such as Stahlin or Kalinin. On the other hand, many of the younger doctors, though specialists of good standing, have scruples against private practice. Some give medical aid to acquaintances or needy persons, refusing pay, but accepting return courtesies of a professional character. The whole ethics on this point is in a state of flux. The same is true regarding the sympathy of the doctors with the government; it varies greatly. Many are very keen on the wide extension of sanatoria, some are covertly hostile; probably most are rather anti-political.

In the past few years tremendous efforts have been made to increase the number of doctors to meet the incredibly great demands of an awakening rural district. Courses have been shortened and undoubtedly quality has suffered. However, if you ask medical men if the short medical training that is now being given in Russia does not lower the standard of the profession, they will frankly admit that it does, but also add that doctors with two years training are better than no doctors at all. The Russia of the past was sadly lacking in sufficient doctors and medical facilities; to raise these conditions to a proper standard is a tremendous task.

On the other hand rural districts have better doctors and medical facilities than ever before and many more of them, since formerly they were very badly off with only midwives and felchers. Moreover, the rural system of attaching all doctors to a central hospital point, under the management of two or three trained physicians of long experience, eliminates some of the faults of this shortened training. The work of higher institutions of medical research, it is stated, has been probably improved and is, I understand, of high quality.

Hospitals are all government owned, either by the Department of Health or Social Insurance. Private hospitals would be illegal or in process of becoming so. There are many more hospitals than formerly, but they are still far from sufficient.

Difference is made as to the standing of patients, that is, as to wards or private rooms. The highest State officials usually get a private room in the Kremlin hospital, if the disease requires it. However, in sanatoriums the highest officials are often several in a room. Nursing service such as we know it in America is unknown and has always been so, I am told. A nurse, as one in Poland once said, "is to watch the pa-

tients, not to wash them." Some patients are dissatisfied; others think it is the most agreeable thing they ever experienced to go to a sanatorium or hospital. The latter are those of the lower classes who got little or no attention in former days. Medical service in the existing hospitals I believe is ample, with many attending specialists, but many more hospitals are still required.

I would say that a medical career in Russia offered no extraneous attractions. It offers the attractions of a reputation among one's peers, and a chance for a continuous advance in a field which especially interests some people. In this it resembles most other professions and callings in the Soviet Union today, being neither better nor worse paid than others. One additional fact might be mentioned. No doctor is any longer required to expend large sums of money for his training, thus acquiring in after years "an interest on his investment," so to speak. He is supported by the State while studying and is expected for this to give a certain term of service wherever he is sent,—usually in rural districts.

At a recent conference held in Moscow by scientists of Soviet Russia, among others, the following resolution was passed: (A clipping from a newspaper) "We shall actively aid in this unprecedented constructive activity. All our forces, all our knowledge, and all our ability, we shall devote to the creative work undertaken by the millions of toilers who are re-building our country upon socialist foundations. Physics, chemistry, biology, all the branches of science and technic, will go hand in hand with the struggle for the daring slogan launched by the proletariat and by its great party: to overtake and outstrip the capitalist countries in a decade."

In my opinion it is the intelligentsia, the men of science and medicine, spurred on by a desire to help mankind, that are making the great sacrifice in Russia.

I have often remarked that there should be a special reward in The Great Beyond for conscientious doctors,—ministers of mercy to suffering humanity, experiencing an avenue of approach to the innermost life and soul of man into which neither priest nor clergy are often permitted to enter.

FAMOUS MEN IN MEDICAL HISTORY

WILLIAM SHIPPEN, JUNIOR, AND THE EARLY DEVELOPMENT OF AMERICAN OBSTETRICS.*

CHARLES M. BURGESS, M.D.

William Shippen was born in Philadelphia in 1736. He was the son of a Dr. William Shippen, a distinguished physician of Philadelphia, and a grandson of Edward Shippen, an associate of William Penn in the founding of Pennsylvania. William Shippen, senior, a man of wide learning, was one of the founders and long a trustee of the College of New Jersey (now Princeton), a trustee in the College of Philadelphia (the University of Pennsylvania), vice president of the Philosophical Society, and the first physician appointed to the Pennsylvania Hospital.

William Shippen, junior, spent the early years of his life in Philadelphia. His father then sent him to Nottingham Academy—where, under the instruction of the Reverend Mr. Finlay, he became thoroughly acquainted with the classics. The fruit of this early training became evident later when as valedictorian of his class (1757) in the College of New Jersey he so impressed the famous preacher Whitefield with the eloquence of his Latin oration that he was urged by this worthy to enter the ministry—Whitefield declaring that he had never heard better speaking. However, young Shippen was destined to serve humanity in a different way. He returned to Philadelphia, and for three years studied medicine as an apprentice with his father. At the conclusion of this period he went to London. Here, he lived in the family of the famous John

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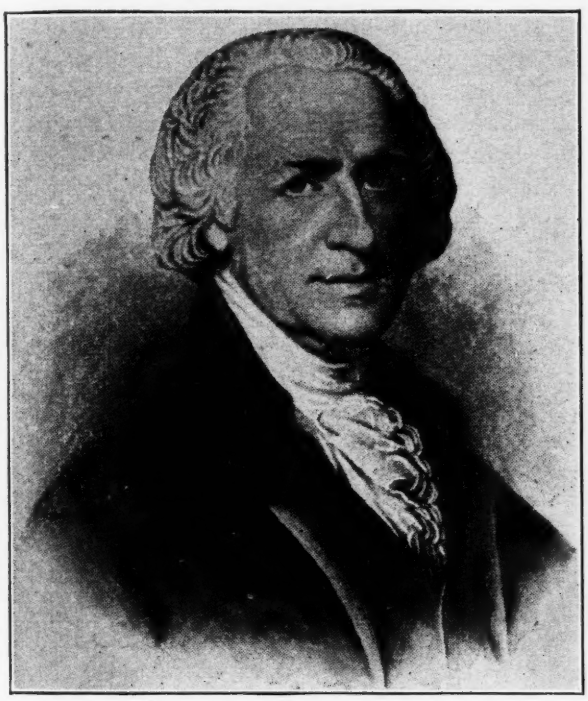
Hunter and studied anatomy and midwifery under the no less renowned William Hunter. Also, under Dr. McKenzie he studied obstetrics; under Dr. Pringle he became much interested in pathological anatomy; and elicited great interest from the celebrated Dr. Fothergill. In 1761 at Edinburgh he was granted his medical degree. He then spent some time in France as professional attendant upon a wealthy invalid. At this particular time France and England were at war, and it is interesting to note that it was only through the help of George II that he secured permission to travel in France.



WILLIAM SHIPPEN, JR.

While in that country he became acquainted with the celebrated Senac and other noted French physicians.

About this period he married his countrywoman, Miss Lee of Virginia, daughter of Thomas Lee, a gentleman of standing in the Colony, and President of the Governor's Council.

Young Shippen returned to Philadelphia in 1762—there to take up practice and teaching. Just previous to his return, Dr. Fothergill presented to the Pennsylvania Hospital a set of handsome anatomical paintings, and drawings, and models. This material, he expected Shippen to explain and to use in teaching. Also in a letter written to the hospital authorities, we find reference to the establishment of the first medical school in America, for in this letter he writes of the probability of Shippen establishing a medical school, and of Dr. John Morgan as an able young assistant in the project. Outside of any University connection, Shippen began to teach anatomy in the autumn of 1762, just as soon as weather would permit. In his very opening lecture he proposed the establishment of a medical school. This introductory lecture was delivered in one of the large apartments of the State House, and many of the gentlemen of Philadelphia heard it with pleasure. Later, his father constructed a lecture room for him in the rear of his home. The number of students who attended his course was only twelve; such was the origin of our first medical school. Benjamin Rush was one of the twelve pupils. After his first lecture, Shippen made the following announcement in the *Pennsylvania Gazette*:

> "Dr. Shippen, anatomical lecturer, will begin tomorrow evening at six o'clock at his father's house in 4th street. Tickets for the course to be had of the Doctor at 5 pistoles each, and any gentlemen who incline to see the subject prepared for the lecture, and learn the art of dissecting, injecting, etc. are to pay 5 pistoles more."

Then for three years he lectured on anatomy and midwifery. In 1768 he was unanimously elected a Fellow of the Royal College of Physicians at Edinburgh. In 1778-9 and again from 1791 till 1802 he was one of the physicians of Pennsylvania hospital and for more than 40 years he was a member of the American Philosophical Society.

There is little doubt that some rivalry existed between Morgan and Shippen for the honor of being founder of the first medical school in this country and thus the father of American Medicine. Upon Morgan's election as professor of Theory and Practice of Physic, Shippen wrote to the trustees reminding them that the establishment of a medical school had been his dearest wish for seven years and that he had proposed the matter in 1762. He asked for the appointment as professor of anatomy and surgery. This was granted and for 26 years, save for the winter of 1776-7, his lectures were continued, hundreds of students coming under his instruction during that period and many of them completing their studies abroad. He was universally regarded as without a peer as a teacher. And here let

us pause, and remind ourselves that any success in teaching anatomy and obstetrics in those days required an outstandingly strong personality, for public opinion had not yet approved of dissections or of men midwives! Shippen met with violent opposition on the part of the populace, who stoned him and smashed on several occasions the windows of the house in which the dissections were performed. To allay this prejudice he announced in letters to the newspapers that the bodies he used were those of persons who had committed suicide or been legally executed, except "now and then one from Potter's field." In connection with his midwifery lectures he also established a small lying-in hospital "under the care of a sober, honest matron, well acquainted with lying-in women."

Wistar, one of his old students, in explaining the success of Dr. Shippen in teaching anatomy, says that we may take into view another faculty which he exerted with great effect. "He went through the substance of each preceding lecture by interroation instead of recapitulation, thus fixing the attention of the students; and his manner was so happy that this grave process proceeded like a piece of amusement. His irony was of a delicate kind and so blended with humor that he could repress forwardness and take notice of negligence so as to admonish his class without too much exposing the defaulter."

It is very likely that the rivalry existing between Morgan and Shippen in the founding of the medical school led to the quarrels between these men in the Revolutionary days. Scandalous charges and other troubles were experienced by each as director general of the Hospital, all of which was much out of keeping with their great personalities.

Briefly, during this period, Dr. Shippen was appointed director of the Hospital of the Flying Camp in New Jersey in July 1776. In April of the following year he was appointed by Congress as director general and physician in chief of the Hospital. Dr. Morgan had been dismissed from this position in the previous January. Morgan at once sought vindication and was granted this by Congress in 1779. Serious charges were continued against Shippen by Morgan, Benjamin Rush, James Tilton and others. He was brought to trial before a military commission in August, 1780, and was honorably acquitted. He resigned from the service in January, 1781, and returned to private practice and teaching, becoming equally distinguished in the teaching and practice of obstetrics. This followed for some 10 to 12 years.

It was during this period that he effected a great change in the habits of the city. We must not forget that still in Philadelphia at this time there were very few occasions where medical men were employed to conduct a childbirth case. It was only when something very important was to be done that they were resorted to, and very often when it was too late. This was altogether the effect of prejudice and not of necessity; even the best obstetrical practitioners attended very few natural labors. Shippen dispelled this prejudice so that in the course of ten years he became very fully employed as an obstetrician.

Then came the illness of his only son, in whom he was more than commonly interested, for this young man promised a brilliant future. In six years the illness was terminated by death. Then Shippen began to lose interest in the things about him and thereon sought solace in religion, gradually relinquishing his practice and teaching, until some 10 years later his health began to fail, he developed a hydrothorax which compelled him to give up work, and shortly after retiring to Germantown he was afflicted with an attack of anthrax which caused his death on the 11th of July, 1808.

From one who had known him personally we learn that—"Nature had been uncommonly bountiful in his form and endowments. His person was graceful, his manners polished, his conversation various and the tones of his voice singularly sweet and conciliatory. In his intercourse with society he was gay without levity and dignified without haughtiness or austerity. He belonged to a family proverbial for good humor. His father, whom he strongly resembled in this respect, during the long life of 90 years had scarcely ever been seen out of humor. He was also particularly agreeable to young people. Known as he was to almost every citizen of Philadelphia, it is probable that there was no one who did not wish him well."

It is of interest to note the advertisement for his first course of lectures on midwifery which began as follows:

"Dr. Shippen, Jr., having been lately called to the assistance of a number of women in the country

in difficult labors, most of which were made so by the unskilled old women about them; the poor women have suffered extremely and the little ones were entirely destroyed, whose lives might have been easily saved by proper management; and being informed of several desperate cases in the different neighborhoods which had proved fatal to the mothers, as well as to their infants, and were attended with the most painful circumstances, too dismal to be related; he thought it his duty immediately to begin his intended course of lectures on midwifery, and has prepared a proper apparatus for that purpose, in order to instruct those women who have had virtue enough to own their ignorance, and apply for instruction, as well as those young gentlemen, now engaged in the study of that useful and necessary branch of surgery who are taking pains to qualify themselves to practice in different parts of the country, with safety and advantage to their fellow creatures."

THE EARLY DEVELOPMENT OF AMERICAN OBSTETRICS

Before we can properly appreciate the advances made in early American Obstetrics we must first hastily survey the progress—a better word would be change—in this art and science that took place through the centuries preceding the settling of America.

For many centuries, during the early history of the world, there is no knowledge of any assistance being rendered to a woman during parturition. The process is a physiological one, and people in that age lived under physiological conditions. Woman was unaided—she was strong because natural selection had sent the weak to early graves. The pelvis was large and its bones elastic because no restricting clothing had been worn. The joints were movable and permitted of a great deal of extension because the first child was born as soon as possible after puberty, while the tissues of the body still possessed the yielding pliability of youth. The heads of the children were soft and compressible because the diet of the mother consisted of uncooked foods—raw meat, fresh fruits, nuts and roots.

Esthetic education makes the human race susceptible to pain. Not so in the early days; the more tenderly people are reared, the more sensitive they become to bodily injuries. So, in remote times, the mothers of our race gave birth to their children without complaint and for the most part without suffering. The Indian squaw gave birth to her offspring without any evidence of pain that we are familiar with among the white races. Usually, she retired into the forest alone, was delivered without assistance, arose, washed herself and child in the water of some neighboring brook or pond, wrapped the baby in a piece of fur or blanket, and then hurried on to join the rest of the tribe. There was no confinement to bed for an indefinite period of time. However, if the labor of the primitive mother was difficult, assistance of the straightforward type might be called into play. She was picked up by the feet and shaken head down, or rolled and bounced on a blanket—or, as was formerly done among some of the tribes of American Indians, labor was hastened by placing the woman on the prairie and having a horseman ride at her with the apparent intention of trampling her. Although the rider turned aside at the last moment, the fear inspired in the woman was sometimes effective in shortening her labor.

The art of caring for the child-bearing woman was fairly well developed at the peak of the Egyptian, Greek, and Roman civilizations. The Middle Ages were the most unfortunate period in the history of womankind. Complete ignorance prevailed without the intuitive skill of the primitive period and without the knowledge of previous civilizations. Religion took over the supervision of the prostitutes and the oversight of the practices of the midwives. The instructions and edicts issued by the monks were not, however, for the better care of the childbearing woman but rather to save the child's life for a sufficient time to allow it to be baptized. Thus it was typical of the age that attempts were made to form intra-uterine baptismal tubes, by which the child, locked by some ill chance in its mother's womb, could be baptized and its soul saved before the mother and child were left to die together. Nothing was done to save their lives. In the words of Haggard, "no greater crimes were ever committed in the name of civilization, religious faith and smug ignorance than the sacrifice of the lives of countless mothers of children in the first fifteen centuries after Christ among civilized mankind." Decidedly is this no exaggeration, for during the age of the medieval Christian the treatment accorded the childbearing woman was worse than the mere neglect among primitive peoples, because they saw in childbirth the result of a carnal sin to be expiated in pain. Her suffering was augmented by the fact that she was no longer a primitive woman, as well as the fact that civilization was bringing with it urbanization, cross-breeding

and spread of disease, all of which has made childbearing often unnatural and hazardous.

With the Renaissance there came a change in the care given the childbearing woman. This change was slower in advancing than were many of the other changes which marked this period. Material advancement is always made before humanitarian. Modern science has happily intervened and with it better obstetrics. There are two arts in medicine which can be traced to earliest records, and which of necessity received attention from the earliest civilizations: one is the healing of wounds, the other is the delivery of children. Women who had themselves borne children, and were thus taught by experience, assisted their neighbors just as warriors or hunters exposed to injury rendered aid to their injured fellow men. As the organization of the community advanced, some of these women who assisted at childbirth did so regularly, and eventually made it a calling. Thus arose the midwife, at first a blessing and a comfort but later one of the greatest impediments to the advancement of the obstetrical art. Assistance at childbirth was looked upon as a woman's work, and, because of the type of women who plied this trade, progress was impossible. The aid of the priest or man possessed of mystical power, and later the physician, was called in difficult cases only when the efforts of the midwife failed. It is only at the peak of ancient civilizations and quite late in our own that the physician personally took charge of labor in occasional cases.

The ignorance of men concerning the subject of midwifery is shown by an expression of a Dr. Culpepper in his book on Obstetrics published about 200 years ago. He remarked that he would have known more about the subject if he had ever witnessed a case of confinement! He bewailed the fact that he did not live in Holland, for there it was the custom for the wives to be confined on the laps of their husbands, and if such had been the case he might have had plenty of information, as he was the father of twelve children! The exclusion of men from the study of the child-bearing woman rose in some instances to fanatical heights. Dr. Wertt of Hamburg in 1522, put on the dress of a woman to attend and study a case of labor. As a punishment for his impiety he was burned to death. In 1513 Eucharius Roslin, who had probably never seen a child born, wrote a book of instruction for midwives. He may have felt something of the humor of his position for the title of his book is "The Garden of Roses for Pregnant Women and for Midwives." However, customs of the time were changing; trained and supervised midwives were a step toward the betterment of the childbearing woman, and the next step was the participation of the physician himself in midwifery. It became the fashion for ladies of the court to have male midwives. The title of accoucheur was given to replace the somewhat derisive appellation of man midwife or midman, or other contemptuous names which were often used to belittle physicians who practiced obstetrics. Thus, when Dr. Wm. Smellie in the 18th century established a school in London for teaching midwifery, he was christened by his competitor, Mrs. Nihell, the Hay-Market midwife, a "great-horse-grandmother of a he midwife." But the attempts of the physicians to practice obstetrics were met with opposition. Except in the case of royalty the male physician encountered prudery which rose to amazing heights. Sometimes he was forced to tie one end of a sheet to his neck and the other end to his patient's neck; while the view of both parties was unobstructed above this guard, the physician could not see beneath it. He made his manipulations blindly, but he spared his patient's blushes. The opposition to the participation of physicians in obstetrics did not cease altogether until nearly the present century. As late as the forties of the 19th century John Stevens of London denounced and exposed in his pamphlets "the danger and immorality of employing men in midwifery." He dedicated his efforts to the Society for the Suppression of Vice. The obstetrician of today is no longer exposed to condemnation and open derision. Nevertheless in those countries which are backward in their cultural development there still exists a remnant of the earlier attitude; it is shown in a certain evident if unspoken belittlement of the physician who assists the childbearing woman. He is felt by some people to be of lower caste than physicians in other branches of the medical profession.

It is the popular belief that Julius Caesar came into the world as the result of the cesarean section. This has been disputed,

however. At this time there was a law in Rome which required that the operation be performed upon a woman dying during the last few weeks of pregnancy. The law existed during the reign of the Caesars, hence was known as the cesarean operation. Capar Bauhm tells us that the first cesarean section performed upon a living woman was done in 1500 A. D. by one Jacob Nufer, a castrator of pigs, residing at Sigerhausen, Switzerland, with the recovery of the woman after the midwives and barbers had given her up to die.

Pare, re-introducing podalic version, and Vesalius, first showing the true relation of the bones of the pelvis, both loom high in the history of obstetrical art.

Toward the end of the 17th century Mauriceau made the bold innovation of having his patients delivered in bed and had dispensed with the obstetrical chair, whose antiquity was greater than the Bible. In spite of the innovation, the obstetrical chair held its supremacy and the brides of Holland continued to provide them with their trousseaus until the nineteenth century.

The introduction of the obstetrical forceps, retarded as it was by the charlatan Chamberlen family, was one of the greatest landmarks in obstetrical history. DeLa-Motte, obstetrician of Volgens, criticizes the Chamberlens with these biting words—"He who keeps secret so beneficial an instrument as the harmless obstetrical forceps deserves to have a worm devour his vitals for all eternity."

Late in the 18th century, great impetus was given to obstetrics by the work of William Hunter on the gravid uterus, which was published in 1774. He helped in a great measure to establish the dignity of obstetrics and to elevate it to the position of a science, in short to open the way to its rapid progress. His work has been referred to as being to obstetrics what that of Euclid was to mathematics.

Obstetrical practice remained in the hands of the surgeons although the revival of podalic version and the invention of the forceps reduced the number of cases in which it was necessary to destroy the child. There developed a tendency to use instruments wherever possible. The general use of the obstetrical forceps gave even a wider play to this habit of "meddlesome midwifery." The surgeons, moreover, could not resist carrying with them into the obstetrical field the practice of blood-letting, and the parturient woman was bled for prophylaxis if everything seemed normal and for treatment if everything seemed abnormal. Finally there was a reaction against this operative interference and the obstetrical art was no longer taught as a branch of surgery.

Three prominent eras stand out in the science of obstetrics:

1. Invention and use of forceps.
2. Discovery and use of anesthesia.
3. Discovery and advocacy of germ theory as developed by Pasteur.

The science of obstetrics of such recent birth in Europe had not yet arrived in America, with the foundation of this republic. There was little evidence of its existence for the next quarter of a century. Here was a young country sparsely settled, struggling for independence. Until 1783 attention was entirely drawn from the pursuits of peace; agriculture, manufacture, science, art were all neglected. The establishment of peace found the country entirely unprepared at once to resume those pursuits to which it had so long been a stranger. People were impoverished, land unproductive, credit of the country was not yet established, and its exchequer was empty. Immediate material wants of the inhabitants claimed their almost undivided attention. Gaillard Thomas rightly expresses it when he says: "As an art, practiced by midwives, obstetrics was a vigorous plant, deep-rooted and strong; as a science, a delicate shoot, which feebly struggled with adverse circumstances for life; while the very seed of the sister branch of gynecology may be said to have been unsowed."

In spite of the prejudice of the community, at an early period even in colonial times a very small number of physicians, recognizing the claims of obstetrics, devoted themselves to its practice. In 1753 Dr. James Lloyd, a pupil of Smellie and Hunter, settled in Boston, and in the following year systematically began the practice of midwifery. He was the first practitioner so devoting himself, of whom records can be found. In 1762 the same course was pursued by Dr. Wm. Shippen, Jr., of Philadelphia; and these two pioneers in obstetrical science began the great work here which Smellie, Hunter and others were striving for abroad, of placing this important branch

upon a level with the sister departments of medicine and surgery. The success of their efforts may be judged by the facts that in 1762 Dr. Shippen delivered a course of lectures upon obstetrics; that in 1767 Dr. Tennant was appointed to a special chair on this subject in New York; and that thus introduced as a distinct department into the curriculum, the subject has to the present day been recognized as one of paramount importance and dignity.

During this period, essays were written by Orne, Osgood and Holyoke upon pudendal hematocele, Sigautian operation, rupture of the uterus, retroversion of the gravid uterus, extra-uterine pregnancy, and numerous case reports, evidencing an effort in the right direction. In 1791 a laparotomy for removal of an extra-uterine fetus was successfully performed by Wm. Baynham upon the wife of a Virginia planter. He operated with similar success upon a negro slave in 1799. Before Baynham's first case the operation had been only once performed in this country, namely in colonial times, by John Bard of New York, in 1759. Subsequently, it was repeated by Wishart and Alexander H. Stevens.

The dawn of the 19th century found the United States ripe for progress and advancement, and while it was yet young the lamp of medical science began to burn with a brightness which it had not shown before, and which promised well for the future. The way to progress in obstetrics was pointed out by the great Englishman, Hunter; and in the very first year of the new century a similar impulse was given to gynecology by the eminent Frenchman, Recamier. The greatest advances which have been made in the science and art of medicine in modern times have all been due to the subordination of facts to physical investigation and demonstration. At the commencement of the 19th century such influence was evoked in behalf of gynecology in the speculum uteri with which Recamier, in 1801, began the study of the diseases of female sexual organs. In 1807, ergot was first introduced into materia medica as an oxytocic by John Stearns, first president of the New York Academy of Medicine. Also in 1807, the first work upon obstetrics which appeared from the pen of a native author was that of Dr. Samuel Bard, of New York. I would like to quote one of Bard's cases from his compendum of the "Theory and Practice of Midwifery."

"*Case 115.* A poor woman, 60 years of age, complained of a tumor which hung down from the external parts between her thighs, attended by a discharge of mucus and of pus, so profuse in quantity as to make her extremely weak. Upon examination of the tumor, it appeared to be an inverted uterus, the whole surface of which was in a state of ulceration; above the tumor was the vagina, also inverted, having partial ulceration upon it; her sufferings, though not acute, were sufficient to interfere with her comfort; and her increasing weakness made her readily consent to the performance of an operation for the removal of them. A ligature was applied around the contracted part of the tumor; that is, where the uterus terminated, and the vagina began. It was tightened daily, until about the 11th or 12th day, when the parts included in the ligature were absorbed and the uterus fell off; during this time the patient complained of very little pain; adhesion had taken place between the sides of the vagina, so as to prevent the exposure of the cavity of the abdomen, and the woman recovered. After an operation of this kind, the vagina should be returned to its natural situation, and it should be kept there by a hollow globular pessary."

DR. WILLIAM SHIPPEN, JR.
(Reproduced from Packard's *History of Medicine in the United States*).

After reading such an account, how impressed one is with the giant strides made in obstetrics and gynecology in the last century —truly a complete story in itself.

James R. Chadwick, long an authority in this field, made a close observation and study of the art and science of obstetrics and gynecology in most of the countries of Europe, and he came to the conclusion that in these studies America leads the world.

Certainly, America has done her share in the past. And, judging from the present, she will be responsible for much that is advanced in the future in this great branch of medicine.

OAKLAND COUNTY MEDICAL SOCIETY

The City of Pontiac and Oakland County are in the limelight of Michigan medicine this present year owing partly to the fact that the annual meeting of the Michigan State Medical Society, as announced, will be held at Pontiac in September and also to the fact that it is the one hundredth anniversary of the founding of the Oakland County Medical Society. Dr. C. A. Neafie, Medical Health Officer for Pontiac as well as Councillor for the 15th district of Michigan, has prepared a history of Oakland County which we expect to print in these pages during the coming months. The re-organization of the Oakland County Medical Society took place on Sept. 9, 1902. The following contribution consists of the minutes of the first reorganization meeting, which minutes have been supplied us by Dr. Neafie.—EDITOR.

RE-ORGANIZATION OF THE OAKLAND COUNTY MEDICAL SOCIETY

September 9, 1902, pursuant to a circular letter issued by Dr. Colonel Bell Burr of Flint, Michigan, the Councilor of the Sixth District, and a call sent out by Drs. Mason W. Gray, Jason Morse, George H. Drake and William McCarroll, the Executive Committee of the Pontiac Medical Society, members of the Medical Profession in Oakland County, Michigan, assembled in the Council Chamber of the City of Pontiac.

Dr. Burr called the meeting to order.

Dr. Franklin B. Galbraith was chosen President of the meeting and Dr. W. McCarroll, Secretary.

Dr. Burr briefly stated that the object of the meeting was to organize an Oakland County Medical Society which would be a component part of the Michigan State Medical Society.

Dr. James C. Willson, the Vice President of the Michigan State Medical Society, also made an address showing what was being done in this line in other parts of the state, and benefits which would accrue to the Profession from such organizations.

A motion was made by Dr. Edmund A. Christian that "We hereby resolve ourselves into a County Medical Society." This was amended by Dr. Gray by adding the words "in accordance with the plan proposed by the American Medical Association and the Michigan State Medical Society," and in that form was passed unanimously.

A Committee composed of Drs. Gray, Morse, Christian and McCarroll were appointed to prepare a Constitution and By-Laws for the Society and their report on motion of Dr. Nenian T. Shaw was read at length by Dr. McCarroll.

Dr. John L. Campbell moved that the Constitution and By-Laws as read be accepted and adopted, which motion was carried unanimously after the dates for the annual and regular meetings had been chosen and the annual dues had been fixed. The motion of Dr. Christian, "that we now proceed to organize by the election of officers," was carried without dissenting votes. Drs. Charles M. Raynale and Joseph J. Moore were appointed tellers. Nominations by informal ballot for President were made; and then Dr. Christian moved that the Secretary cast the vote of the Society for Dr. F. B. Galbraith for President for the year and this also carried unanimously.

Dr. DeWitt Clinton Wade was elected Vice President. Dr. W. McCarroll was elected Secretary-Treasurer, and Drs. C. M. Raynale, E. A. Christian and M. W. Gray were elected members of the Board of Directors.

List of Charter Members of the Oakland County Medical Society who on September 9, 1902, authorized the Secretary thereafter to sign their names to the Constitution and By-Laws that day adopted at Pontiac, Michigan.

Joseph J. Moore	Farmington
Charles M. Raynale	Birmingham
DeWitt Clinton Wade	Holly
Robert LeBaron	Pontiac
Nenian Thomas Shaw	Birmingham
William Aitcheson	Ortonville
Talmage Herbert Prust	Pontiac
Geo. H. Drake	Pontiac
Jason Morse	Pontiac
John L. Campbell	Birmingham
Harvey S. Chapman	Pontiac
Carlton D. Morris	Pontiac
Edmund A. Christian	Pontiac
Stuart E. Galbraith	Pontiac
Daniel G. Castell	Holly
Virgil H. Wells	Pontiac
Reuben G. Dean	New Hudson

John C. Black	Milford
Aileen M. Betteys (Corbit)	Oxford
George W. MacKinnon	Oxford
B. C. H. Spencer	Rochester
John W. Fox	Orion
Nathan B. Colvin	Pontiac
Franklin B. Galbraith	Pontiac
Harry C. Guillot	Pontiac
William McCarroll	Pontiac
John H. F. Mullett	Pontiac
James J. Murphy	Pontiac
Robert Y. Ferguson	Pontiac
Mason W. Gray	Pontiac
Anna Jay Clapperton	Pontiac
Guy C. Conkle	Pontiac
Irwin H. Neff	Pontiac

BOARD OF DIRECTORS OAKLAND COUNTY MEDICAL SOCIETY

Year	
1902	C. M. Raynale, Birmingham; E. A. Christian, Pontiac; M. W. Gray, Pontiac
1903	E. A. Christian, M. W. Gray, N. B. Colvin, Pontiac
1904	E. A. Christian, R. LeBaron, Pontiac; N. B. Colvin, Pontiac
1905	E. A. Christian, W. McCarroll, N. B. Colvin, Pontiac
1906	E. A. Christian, M. W. Gray, E. Orton, Waterford
1907	E. A. Christian, M. W. Gray, N. B. Colvin
1908	E. A. Christian, M. W. Gray, N. B. Colvin
1909	H S. Chapman, M. W. Gray, N. B. Colvin
1910	H. S. Chapman, C. D. Morris, D. G. Castell, Pontiac
1911	R Y. Ferguson, G. W. Drake, M. W. Gray
1912	R. Y. Ferguson, G. W. Drake, M. W. Gray
1913	
1914	R Y. Ferguson, M. W. Gray, N. B. Colvin
1915	Wm. McCarroll, H. A. Sibley, Pontiac; F. S. Bachelder, Pontiac
1916	Wm. McCarroll, H. Sibley, Pontiac; F. S. Bachelder, Pontiac
1917	Wm. McCarroll, N. T. Shaw, Birmingham; S. A. Butler, Pontiac
1919	R. Y. Ferguson, E. Orton, C. J. Southerland
1920	A. W. Newitt, Birmingham; Geo. P. Raynale, Birmingham; H. A. Sibley
1920	Fred A. Baker, Pontiac; Geo. P. Raynale, D. G. Castell
1922	J. H. Neff, Birmingham; L. A. Farnham, D. G. Castell
1922	R. Y. Ferguson, F. A. Mercer, J. J. Murphy
1923	R. Y. Ferguson, Fred Baker, D. G. Castell
1924	R. Y. Ferguson, J. S. Morrison, A. V. Murtha
1925	R. Y. Ferguson, Peter Stewart, D. G. Castell
1926	R. Y. Ferguson, L. F. Cobb, D. G. Castell
1927	R. Y. Ferguson, B. M. Mitchell, H. A. Sibley
1928	R. Y. Ferguson, B. M. Mitchell, H. A. Sibley
1929	R. Y. Ferguson, F. A. Baker, Robert H. Baker
1930	F. A. Mercer, F. B. Gerls, A. V. Murtha

OFFICERS OF THE OAKLAND COUNTY MEDICAL SOCIETY

Year	*President*	*Vice President*	*Secretary-Treasurer*
1902	F. B. Galbraith, Pontiac	D. W. C. Wade, Holly	Wm. McCarroll, Pontiac
1903	D. W. C. Wade, Holly	J. J. Moore, Farmington	Wm. McCarroll, Pontiac
1904	Wm. McCarroll, Pontiac	C. J. Southerland, Clarkston	M. W. Gray
1905	R. LeBaron	C. J. Southerland, Clarkston	M. W. Gray
1906	J. J. Moore	G. W. MacKinnon, Oxford	C. D. Morris, Pontiac
1907	G. W. MacKinnon	T. E. McDonald, Holly	C. D. Morris, Pontiac
1908	C. J. Southerland	T. E. McDonald, Holly	J. T. Bird, Clarkston
1909	T. E. McDonald	E. A. Chapman, Walled Lake	J. T. Bird, Clarkston
1910	E. A. Chapman	E. A. Christian	R. Y. Ferguson, Pontiac
1911	E. A. Christian	Wm. McCarroll	J. B. Chapman, Pontiac
1912	C. M. Raynale	J. S. Morrison, Royal Oak	J. B. Chapman, Pontiac
1913	J. S. Morrison		J. J. Murphy, Pontiac
1914	J. A. Miller	P. D. Hilty, Birmingham	J. J. Murphy, Pontiac
1915	P. D. Hilty	E. F. Holcomb, Farmington	F. B. Gerls, Pontiac
1916	E. F. Holcomb	F. S. Bachelder	F. B. Gerls, Pontiac
1917	F. S. Bachelder	S. E. Galbraith, Pontiac	H. A. Sibley
1919	N. T. Shaw	S. E. Galbraith, Pontiac	D. G. Castell
1920	R. Y. Ferguson	F. B. Gerls	C. A. Neafie, Pontiac

Year	*President*	*Vice President*	*Secretary*	*Treasurer*
1921	H. A. Sibley	F. A. Mercer, Pontiac	A. V. Murtha, Pontiac	Robt. H. Baker
1922	Geo. P. Raynale	D. G. Castell	P. D. Hilty	Robt. H. Baker
1923	D. G. Castell	F. B. Gerls	Fred A. Baker	Robt. H. Baker
1924	F. B. Gerls	Peter Stewart, Royal Oak	L. F. Cobb	Robt. H. Baker
1925	N. B. Colvin	I. H. Neff	L. F. Cobb	Burton M. Mitchell
1926	N. B. Colvin	I. H. Neff	F. S. Bachelder	Burton M. Mitchell
1927	N. B. Colvin	F. A. Mercer	Fred Baker	Isaac C. Prevette
1928	F. A. Baker	F. A. Mercer	C. A. Neafie	Isaac C. Prevette
1929	F. A. Baker	D. G. Castell	C. A. Neafie	Isaac C. Prevette
1930	B. M. Mitchell	John S. Lambie	C. A. Neafie	Geo. A. Sherman
1931	L. A. Farnham	Robert H. Baker	C. A. Neafie*	Geo. A. Sherman

*Resigned May 20, 1931. Succeeded by Donald F. Hoyt.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner
LANSING, MICHIGAN

MICHIGAN DIVORCES—1930

For the first time, we are able to present divorce statistics relating to the duration of the marriage. We append a table which gives the duration of marriage as indicated in the more than 10,000 divorces granted in Michigan in 1930.

Years of Marriage	Number of Divorces
Under 1	382
1	630
2	856
3	820
4	797
5-9	3,054
10-14	1,829
15-19	966
20-24	584
25-29	344
30 and over	218
Unknown	56
Annulments	103
Total	10,639

It will be observed that the greatest number of divorces had a marriage duration of less than five years, 32.2 per cent falling in this group, while 29.1 per cent had a marriage duration of from five to nine years, and 17.5 per cent from ten to fourteen years. The greatest number of divorces in any single year of marriage duration occurred during the second year, when there were 856, or 8.2 per cent.

Very significant, however, is the fact that there were 382 divorces, or 3.6 per cent, where the marriage duration was less than one year. On the other extreme, there were 218 divorces, 2.1 per cent, where the marriage had endured for thirty years or more. These figures surely invite sociological research.

It is interesting to note that Wayne County, with 39 per cent of the population of the state, furnished 54.0 per cent of the divorces. During 1930 there were 29,482 marriages in the state, which is equivalent to 2.8 marriages to each divorce. Where relatively a few years ago about ten per cent of marriages ended in divorce, the record for 1930 was more than 35.0 per cent. In Wayne County there were 12,127 marriages and 5,477 divorces, or 2.2 marriages to each divorce, or, stated otherwise, about 45 per cent of the marriages ended in divorce.

This comparison of marriage with divorce is perhaps not quite fair because many marriages take place outside of the state, whereas divorce must be in the place of residence. The recent enactment of the so-called Five Day Law in Ohio, requiring five days to elapse between the time of application for the license and its issuance, will undoubtedly reduce the number of hasty marriages and elopements.

The cause for divorce is not given in such detail as to permit any intelligent study. More than 83 per cent of the records give the cause as cruelty, either alone or in addition to some other cause, and it is obvious that the statement of cruelty does not disclose the real facts. A tabulation of causes given follows:

Cause of Divorce	Number
Cruelty	5,500
Non-support	607
Desertion	791
Drunkenness	11
Infidelity	20
Imprisonment	34
Fraud	3
Insanity	3
Cruelty and Non-support	2,569
Cruelty and Desertion	436
Cruelty and Drunkenness	41
Cruelty and Infidelity	52
Non-support and Desertion	226
Non-support and Drunkenness	19
Non-support and Infidelity	5
Desertion and Drunkenness	3
Desertion and Infidelity	3
Cruelty, Non-support and Desertion	171
Cruelty, Non-support and Drunkenness	36
Cruelty, Non-support and Infidelity	6
Annulments	103
Total	10,639

W. J. V. D.

DR. SLEMONS RECEIVES DEGREE

The degree of Doctor of Public Health was conferred upon Dr. C. C. Slemons, Michigan Commissioner of Health, by the Detroit College of Medicine and Surgery on June 18, at the regular Commencement exercises of the college.

The diphtheria prevention program carried on in Grand Rapids under Dr. Slemons' direction as Health Officer was the work upon which the degree was granted. A description of the plan of procedure and the results accomplished constituted Dr. Slemons'

thesis. In presenting Dr. Slemons for his degree, Dr. W. H. MacCraken, Dean of the Faculty, cited "his outstanding work in public health."

Dr. Slemons' thesis proves that diphtheria can be eliminated as a cause of death in a community by intensive and continued effort.

DR. BUNNEY HONORED

Dr. W. E. Bunney, Associate Director of the Bureau of Laboratories of the Michigan Department of Health, was elected to membership in the American Society of Immunologists in June. This honor was conferred upon Dr. Bunney in recognition of his work in diphtheria toxin and toxoid.

DR. MURPHY RETURNS

Dr. W. J. Murphy, Medical Inspector on the staff of the Bureau of Epidemiology, has returned to Lansing after a year's study in the Harvard School of Public Health.

CHILD HYGIENE ACTIVITIES

Women's Classes in Oceana County, conducted by Dr. Ida M. Alexander, have been completed, and Dr. Alexander is now carrying on a series of classes in Ontonagon County.

Helen Linn, R.N., is conducting a special series of nutrition talks in rural sections of Chippewa County.

Esther Nash, R.N., is in Huron County, organizing for a breast feeding survey and for a series of Child Care Classes in the fall.

Clare and Newaygo Counties have just had breast feeding surveys, conducted by Bertha Cooper, R.N., and Julia Clock, R.N.

Eaton County has the services of Caroline Hollenbeck, R.N., who is carrying on a prenatal and infant nursing service.

ROADSIDE WATER SURVEY

Work on the annual survey of roadside drinking water supplies used by highway travelers, carried on since 1925 by the Bureau of Engineering, was started on May 25th, when two representatives of the bureau left Lansing for the southeastern part of the state to begin the collection of water samples for analysis.

The plan of procedure for this summer will follow closely that observed last year. Inspection of sources of supplies and collection and testing of samples will be followed by posting of approved supplies. Work will be done on all trunk line highways and on a few of the more heavily traveled county roads.

The 1930 survey included inspection of, and analysis of samples from, 1,871 sources of drinking water in both the lower and upper peninsulas. One interesting phase of progress shown by the report of the summer's work was the lessening of distance between sources tested. In 1927 the average distance between sources of supplies was 6 miles. In 1928 this dropped to 4.66 miles. In 1929 it was 4.06 miles, and in 1930 it reached the low point of 3.81 miles.

The results of the roadside water surveys for the six years during which the work has been carried on are shown in the following brief tabulation:

Year	Miles Covered	Sources Tested	Number Safe	Per Cent Safe
1925	1787	427	272	63.7
1926	5479	805	619	76.3
1927	7190	1196	1000	83.6
1928	6435	1380	1159	84.0
1929	7797	1874	1583	84.5
1930	7246.8	1871	1617	86.4

CALCIFICATION OF INTRARENAL ARTERIES GIVING ROENTGEN APPEARANCE OF CALCULI

GEORGE WINTHROP FISH and LEONARD A. HALLOCK, New York, report a case of calcification of the walls of the large introrenal branches of the renal arteries in such a way that it gave the roentgenologic appearance of calculi or tuberculous calcification. Although calcification of this type has occasionally been noted at the postmortem table, so far as the authors have been able to determine there are no reports in the literature of a case similar to the one they observed and only a few vague references as to the possibility of its occurrence. This case is of peculiar diagnostic interest to the roentgenologist, internist, surgeon and urologist alike, as shadows such as these, though less numerous, are perhaps not infrequently seen, and, when associated with pyuria, hematuria or pain, offer a difficult diagnostic problem between calculus disease of the kidney and tuberculosis. In the light of this case it seems probable that such shadows associated with hematuria have been diagnosed as renal calculi and operations performed that were unsatisfactory to patient and surgeon alike.—*Journal A. M. A.*

THE JOURNAL

OF THE

Michigan State Medical Society

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All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M.D., 2642 University Avenue, St. Paul, Minnesota, or Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

AUGUST, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

THE ANNUAL MEETING

The 111th annual meeting of the Michigan State Medical Society bids fair to be one of the most successful in its history. Oakland County Medical Society, the host, is putting forth its best efforts in the way of providing entertainment. The event also provides a fitting occasion for the celebration of the centennial of the founding of the Oakland County Society.

The local medical society is putting forth its best efforts to stimulate health consciousness in the schools. Dr. Morris Fishbein, editor of the Journal of the American Medical Association, will deliver an address. Prizes, totalling $300, will be offered teachers and others writing the best résumé of Dr. Fishbein's address. There will be a health exhibit open to the laity and various health talks will be presented to the public by prominent men in the profession.

Those in charge of the scientific program of the Michigan State Medical Society are doing their best to equal if not excel the efforts of former years. This number of the Journal contains the preliminary program, which will give a fairly good idea of the feast in store for those who attend. The complete program will be printed in the September number of this Journal.

Since much of today's travel is by automobile, and the highways were never better, there should be a large representation of physicians from all over the State. Of course those from surrounding counties will be there in full force.

A LAYMAN'S VIEW OF MEDICAL RUSSIA

Elsewhere in this number of the Journal it is our pleasure to present to our readers observations made on the medical situation in Russia. Russia is now in the limelight as a great social experiment, of which, from its very nature, medicine also partakes. There are few laymen in a better position than Colonel George, the author of the paper, to observe and to draw trustworthy conclusions on such a subject. Colonel George insists on first hand knowledge, the opportunity for which came to him during the early months of this year, when he made a special trip to Russia, where he remained a number of weeks a student of social conditions, including those pertaining to medicine as it obtains in Russia. Colonel George is an impartial and unprejudiced observer. His experience as a world traveller has peculiarly fitted him for his self imposed task. He gives us the results of his observations so that we may view the situation through his eyes.

The investigation was made at the suggestion of Dr. Andrew P. Biddle, Ex-President of the Michigan State Medical Society and fellow member with Colonel George of the Public Library Commission of Detroit.

Colonel George concludes his article with an expression of his belief that it is the intelligentsia, the men of science, including medicine, who are making the great sacrifice in Russia.

UNEMPLOYMENT INSURANCE

Experience of the past two years has demonstrated the desirability of unemployment insurance from the viewpoint of the taxpaying citizen. Without some means of taking care of people who are temporarily out of work the onus falls entirely upon the taxpayer, as has been bitterly experienced in the larger industrial centers in this and other states. Of special classes the medical profession in particular has felt the burden keenly owing to the fact that what should be considered a community problem, namely the care of the indigent sick, has been left largely to the medical profession. While contemplating the subject of unemployment insurance many things should be taken into consideration, and above all lessons should be learned from the experiences of other nations and states where unemployment insurance of some form has been in vogue over a number of years. The difficulties of working out a satisfactory scheme of insurance seem at first sight unsurmountable. Those most directly concerned, however, namely the employer and the persons employed, should bear the major portion of the burden, and, to a much less degree, the state might be called upon to assist. In any scheme of private insurance the responsibility is divided between the insured and the insuring company. It would be too much perhaps to ask industry and labor to share the whole burden as the situation is at present. However, the burden is at present borne largely by a third party, namely the general taxpayer. We are not unmindful of the fact that both employer and laborer are taxpayers. However, in times of unemployment labor is not a taxpayer and industry does not pay more than it ordinarily does during prosperous times.

The National Insurance Act was adopted in Great Britain in 1911, since which date compulsory systems of unemployment insurance have been adopted in Italy, Australia, Bulgaria, Switzerland, Poland and Germany. Any plan of unemployment insurance adopted in the United States or any single state should be put in operation only after close study of the results in European countries. Acceptance of unemployment insurance as a principle is one thing; its application is another. H. M. Cassidy, a student of the subject, suggests that a satisfactory system should have the following characteristics: 1. It should guarantee adequate maintenance to the great bulk of the *bona fide* unemployed. 2. It should not be saddled with the support of shirkers or unemployables. 3. It should be on a sound actuarial basis, independent of periodical state subsidies. 4. It should be nation-wide in scope. 5. It should not impose any undue burden upon the development of industry. 6. It should draw its contributions largely from industry, with heavier charges assessed against establishments guilty of irregular operations than against those which are more regular.

Any form of unemployment insurance must put a premium on thrift and industry to the discouragement of incompetency and work-shyness. Undue burden should not be placed upon industry for the result will be to drive industries from the state, or to handicap them to such an extent that they cannot carry on. The worker should not be unduly favored, otherwise there would be an influx of workers from less favored communities, which would likewise be a bad thing.

It is too late probably to get into motion the necessary machinery for unemployment insurance for the benefit of the present depression, and as soon as the depression is over and becomes mitigated we are apt to forget and therefore to postpone the remedy to some uncertain future date. Depressions recur with such rythmic regularity that they may be predicted with more or less certainty. It is the *future* depression that should be anticipated and an attempt made to meet at the present time.

PUBLIC HEALTH EDUCATION

It is just ten years since the joint committee on Public Health Education was organized. The purpose as originally stated was, "to present to the public the fundamental facts of modern scientific medicine, for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting any school, sect, or theory of medical practice. It will send out teachers, not advocates." Much has been accomplished during the past decade, and several hundred lectures have been delivered before thousands of persons, members of high school classes and parent-teacher associations, as well as noontide clubs and industrial organizations. This

educational work has grown so steadily in popularity that the problem has been one of securing a sufficient number of trained and informed speakers to meet the increasing demands.

Starting out on the second decade of its history, a three year educational program has been proposed. The plan will involve closer contact with high schools and parent-teacher associations through a full time assistant director. The field work will include personal contacts with local medical societies. Dr. Henderson, who has been secretary of the joint committee since its organization, will have direct charge of the selection of the staff of lecturers, which he purposes to greatly enlarge and organize more efficiently. A lecture outlines library will be provided, as well as lecture synopses of important topics. The joint committee under the three year program will work in harmony with the Public Health Education program organized by the State Board of Health for the high schools of Michigan.

NORMAL GASTRIC ACIDITY

Studies have been made at the Mayo Clinic of gastric acidity based on an examination of 3,746 records of presumably normal cases; the purpose of the investigation was to ascertain the normal range of acidity, together with the variation in male and female stomachs, if any. The present study has included persons of all ages, whom both clinician and roentgenologist had pronounced free from demonstrable gastric disease. The investigator, F. R. Vanzant, further excluded all persons who gave a history of alcoholism, syphilis, advanced cardio-renal disease, anemia, leukemia, jaundice, myxedema, tuberculosis, Addison's disease, or disease of the liver or pancreas. The author noted the high incidence of achlorhydria, which was found to increase with the ages of the persons examined. The incidence of achlorhydria was found to be 4 per cent at the age of twenty, while it was found to be approximately 26 per cent in persons sixty years of age. At all ages women appeared to be slightly more subject to it than men.

The normal range of free acidity in males and females was found to be between 10 and 12 units in children less than five years old. The gastric acidity increases from this age so that at the age of fifteen years it is practically that of adults, which in women is 35 units; in men between twenty and forty years of age it is about 50 units. After fifty years of age the free acidity in men diminishes until the age of sixty-five, when it is the same as that of women. The total acidity for women appears fairly constant at 51 units throughout adult life. The total acidity for men ranged from 66 units at the age of twenty to 56 units at the age of sixty-five.

W. C. Alvarez, who discussed the paper, deplored the efforts on the part of physicians to alter some physiologic function when there was no clear idea of the normal range of that function. Only a year ago Bloomfield pointed out the normal variation of the gastric secretion with age; Vanzant is the first to demonstrate its variation between the sexes. It has been found that the mean acidity in women does not decrease at all. The conclusion is that the decrease in men with age is not due to senile atrophy of the gastric mucosa as originally held, since if true it should be equally marked in women. Similarly the increase in achlorhydria cannot be attributed to senile atrophy. If senile changes produce anacidity, they should also produce subacidity, which was not found to be a fact. Alvarez considers anacidity an inherited peculiarity which tends to be revealed as age advances.

THE DAMAGED HEART IN INDUSTRY

This is the title of a paper that appears in the present number of this Journal. It appears by the special request of several members, who heard it read at the annual meeting of the Michigan Association of Industrial Physicians and Surgeons. The author deals with a subject of great importance not only to the worker and employer but also to society at large, inasmuch as physical incapacity among workers is becoming an alarming social problem. This includes also the slowing up that comes with age.

Dr. McIlvain has discussed one factor only, The Damaged Heart is Industry. He contends there are stages in heart impairment in which man's usefulness in certain occupations is not in the least diminished, since workers are capable of rendering satisfactory service and therefore capable of supporting themselves and their families. Turning men loose on attaining a certain age, or

when they show signs of physical decline, has already given rise to a community problem of maintenance as well as a psychological problem, for men of so-called middle life, while they may lack the endurance of younger men, are usually at their optimum mentally. Privation of honorable means of subsistence is productive of discontent. The same is true of younger men whose ailment may be so slight as to be scarely noticeable to themselves under ordinary circumstances.

There are other physical conditions besides damaged hearts that are worthy the attention of the industrial physician. Of course, the industries have the final word and industry is seldom altruistic. There is the question of compensation in the event of injury or death by accident, also the matter of maintaining the pace even at a task that may not entail much muscular exertion. Success in industry is measured by dividends, so in spite of sporadic instances of altruism on the part of a few employes the race will continue to the strong.

HOW IT IS AFTER GREAT WARS

While the war of 1812 which culminated in the Battle of Waterloo in 1815 was very much eclipsed by the great war which began approximately one hundred years later, the aftermath was apparently similar. The following is an extract from a letter written by a patient to his physician at Eaton, New York, on October 21, 1819. We could well imagine such a letter written describing conditions today.

"My health is very good at present, which is more than I can say with certainty of my prospects in general. The general stagnation of all business in consequence of the unparalleled scarcity of cash, seems to stare me in the face with a most piteous aspect. And I am now more than ever convinced that the axion of Townsend with respect to the human system may justly apply to the social system. He says 'vital energy of an organ is in proportion to the quantity of well oxygenated blood that passes through it,' or something to that effect—as cash may be considered the life blood of social life the present may be considered an alarming crisis in the public's social health. Yet this complaint may be referred to causes similar to those which the same author names as the cause of so many complaints, viz., sordes in the primæ viæ.' Luxury and indolence have long existed in the primæ viæ of the public and must be ejected before perfect health can be restored. It were to be wished then that full doses of economy and good habits compounded with a little tincture of virtue might be speedily administered—the virtue, however, might be preferable if given in substance.

"I hope this may be done, and that health and happiness may once more exist in the whole system. And as I am an organ of this system (though it were as difficult to tell my use as it is that of the spleen or the thymus gland in the human system) I might be benefited."

CORRESPONDENCE

TAKE A LESSON FROM GENESIS

To the Editor of the Journal,
Michigan State Medical Society:

I have read yesterday in the July issue of the JOURNAL your very apt and—thank God—short, editorial on "Unemployment and the Medical Profession." The figures you present, showing approximately 45,000 destitute families in Detroit during the past year, and with consequent expenditure of $20,000,000 to care for them, are, I think, approximately correct. It is staggering to think that out of the pockets of those of us who pay taxes and whose incomes have been cut anywhere from 30 to 70 per cent during the period above mentioned, should come the money to meet this tremendous expenditure.

Of course this economic depression of 1930-1931 is no new thing, and those of us who are among the elders in the profession can undoubtedly call to mind in the past forty years a goodly number of economic depressions similar to the present one, although not so severe.

Far be it from me to attempt an exploitation of any theory regarding the present crisis, for we who read the papers, and the current magazines, and the popular books upon economics, are wearied to death with the multiplicity of efforts made through these various media to offer some solution of the underlying causes of the present crisis.

Like you, in your article, I prefer to exercise the utmost restraint, and not to weary you or your readers with futile suggestions. I can commend your restraint in the article which you have written and shall endeavor to copy it in this article as well as with my dealings with my unfortunate fellows.

The one point upon which I think commendation to you is imperative is in the suggestion you make of a remedy for the condition which carries as an implication the underlying cause. I refer, particularly, to your suggestion of *unemployment insurance.* Not the socialistic type of insurance which is sought by so many critics and visionaries today, but the type of insurance that in the fat years of our national existence shall put by sufficient funds from the employer and from the employe to carry both of these groups over the—always to be expected—lean years.

May I suggest to your readers the re-reading of the forty-first chapter of Genesis, Verse 29 et sequitur, in which the story is told of Joseph and his brethren through a period of tremendous economic depression in Egypt and in the surrounding countries about 3,000 years ago.

Such re-reading will show that an exceedingly astute ancestor of "the Jew," then chief steward or vizier of the kingdom of Pharaoh, having undoubtedly learned by experience the signs of the times, and being fully aware that economic crises come at more or less regular intervals, made plans and haste during the period when Egypt was at its apex of prosperity, to lay by and to store in warehouses throughout the kingdom sufficient cereal supply to carry their own nation, the Egyptians, and perforce some of the neighboring nations through the lean years which always and inexorably follow the fat ones. According to all the historic data at our disposal, Joseph the Wise stored up through seven years of prosperity, agricultural, economic, and industrial, a vast amount of reserve material which

could be utilized as subsistence for the nation. The records show that during these seven plenteous years he assessed both capital and labor to the extent of 20 per cent, or, as the word of the book has it, he took one-fifth of the product of the soil and of the nation throughout the period of seven years. To put it in another language and in other terms, he took the wealth which the nation produced over one and one-third years during this period for insurance purposes. This method of insurance is somewhat unusual, but, judging from the results, entirely effectual. The seven fat years were followed by seven lean, with the usual accompaniment of drouth, famine, and unrest, but the unemployment and crop insurance which Joseph had inaugurated as a national scheme proved so successful that the nation survived without a serious disturbance, and his brethren were able to come from the far countries and purchase, as other Outlanders did, sufficient food to save them from starvation during these black years.

Now, history has been denominated by a certain well-known capitalist as "Bunk." But to most of us it is the most valuable bunk in the world. It has taught us through all the centuries this lesson—that events and conditions have a way of repeating themselves at regular intervals through all the ages. Thus, here we are in 1931 with a crisis, economic, agricultural, and industrial, which may well parallel the crisis occurring in Egypt 3,000 years ago.

The story that I have just quoted from Genesis is an old story, but it undoubtedly taught a lesson to the Orientals of that age, and yields to us a lesson equally valuable today.

In time of prosperity prepare for adversity. Lean years always follow fat ones. In my judgment the inauguration of some scheme such as this one which we have told you today would do more to prevent the spreading of communistic ideas among our workers and among the great proletariat than any amount of propaganda foisted upon us by a subsidized, or even by a free press.

Again commending you for your courage, your accuracy, your clearness of vision, your restraint, I beg to remain,

Yours most truly,

W. M. DONALD.

938 David Whitney Bldg.,
Detroit, Michigan,
July 9, 1931.

THE SOBBIN' O' THE SISTERS

A'm tired, a'fu' tired o' the gaff that's goin' roon
'Boot the hard times that are passin' an' th' guid times comin' soon,
But I ken there's naething to it but the propagandin' croon
O' a bunch o' sobbin' sisters, that's a'ways roon the toon.

We are needin' noo a he-man wha kens a thing or two,
Wha faces a' things as they are an' kens that it is true
That as soon as we adjust oorsel's tae th' times we hae th' noo
The sooner we'll be eatin' bread wi' butter on it too.

The Republican is guilty, says the man, the Democrat,
An' ithers say that Volstead is to blame for where we're at,
Real estate an' racketeerin', stock markets fa' an' that,
Is naethin' tae the sobbin' o' the sisters an' their chat.

It started wi' us when at war, an' abnormal times were here
When we bought an' promised pay, listenin' tae the hired cheer,
When we a' went nearly crazy, buyin' everything too dear,
'Til oor salaries a' were mortgaged, for anither hundred year.

Then came the propagandist, an' mither's Willie, too,
Commissions an' committees, health workers not a few.
Salesmen wi' high pressure—a giant worthless crew,
They added naethin' tae th' worl', but a' big salaries drew.

Then the saftie politician wha didna go across,
The lobbyist an' agent an' a' wha tried tae boss,
Th' dreamer an' th' talker, wi a' his applesauce—
They're a lot o' sobbin' sisters, wi' backs a' claethed wi' moss.

This sobbin' o' the sisters, 'boot the business o' the State,
Is only makin' jobs for those wha dinna rise till late,
An' mixin' up the government wi' every family trait
Till we noo are a'maist governed by a man for every eight.

This paternalistic doctrine, noo maternalistic sap,
Is the whine o' sobbin' sisters,' that doesna care a rap,
They wad mak' a Coxey' Army, a noisy ane at that,
They're sucking a' the juice there is inside the people's pap.

It stultifies ambition, independence, pride and pep,
It's just as unAmerican as anything we get.
The fellow wha is hungry and wants to pay his debt,
Needs juist aboot an acre wherein his hoose tae set.

But ye coax him tae the city where he has tae pay a rent,
An' naething but his wages can he get by law's consent,
Then his job goes topsy-turvy, doesna matter where it went,
But he's left upon an island and he hasna got a cent.

There's a lot o' wee bit mayors an' ithers o' their set,
Wha are juicy politicians, gatherin' suckers in their net,
Wha would feed an' dole these people, addin' to their discontent,
Raisin' disrespect and taxes, we ken weel we're trouble bent.

Oh, gi' us noo a he-man, wha has the guts tae speak
An' show us hoo tae start again, wi' independent feet,
Wi'oot the politician, the barnacle, the cheat,
An' every man responsible, co-working for his meat.

We need an *evolution,* note the word ah chose tae sing,
Wi' a he-man at the helm, an American manly thing,
Th' *ither word* is comin' wi' communistic bing,
'Less th' he-men o' the country puts a hat intil the ring.

Sure as Hades is nae Heaven, we must instigate a plan
Where families hae their gardens wi' food tae help the man,
Make America for Americans wha are American

Not by takin' out their papers, but by being American.

We must move oor hundred millions frae the city's city roar,
Mak' them build their hames in sunshine, wi' flowers at their door,
There's a livin' doon in Texas for a hundred million more,
They need be willin' workers an' American to th' core.

Course we needna look for helpfulness or any michty boon
Frae th' present politicians, or ithers, vera soon,
For this bunch o' sobbin' sisters will sob and sob and swoon
'Til th' he-man o' th' country gets up and knocks them doon.

—WEELUM

Note—This is the same "Weelum" who has written for this Journal before. He has also contributed in his native Doric to the Tonics and Sedatives of the Journal of the A.M.A. and likewise to the Wayne County Medical Bulletin. "Weelum" limits his practice to diseases of the eye, ear, nose and throat and is well known personally to the ophthalmologists and oto-laryngologists of this State. Through characteristic modesty he wishes to appear under his sobriquet rather than the name given him by his immediate ancestors.—Editor.

THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians will hold its Sixteenth Annual Clinical Session at San Francisco with headquarters at the Palace Hotel, April 4-8, 1932. Following the Clinical Session, a large percentage of the attendants will proceed to Los Angeles, where a program principally of entertainment will be furnished April 9, 10 and 11.

Announcement of the dates is made particularly with a view not only of apprising physicians generally of the meeting, but also to prevent conflicting dates with other societies that are now arranging their 1932 meetings.

Dr. S. Marx White, of Minneapolis, is President of the American College of Physicians, and will arrange the Program of General Sessions. Dr. William J. Kerr, Professor of Medicine at the University of California Medical School, San Francisco, is General Chairman of local arrangements, and will be in charge of the Program of Clinics. Dr. Francis M. Pottenger, of Monrovia, is President-Elect of the College, and will be in charge of the arrangements at Los Angeles. Mr. E. R. Loveland, Executive Secretary, 133-135 S. 36th Street, Philadelphia, Pa., is in charge of general and business arrangements, and may be addressed concerning any feature of the forthcoming session.

"There is therefore a basis for the idea that senility is catching, and for seeking the companionship of the young and thereby letting autosuggestion work in a constructive direction. A well occupied mind, a happy disposition that thinketh no evil, naturally smiles instead of frowning on a stranger or a new idea, free from anger, hatred, and jealousy, the vice that gives no pleasure to anyone, and an attitude of charity in its original and best sense, all tend to prolong life and make it a happy and healthy prelude to crossing the bar. In Sir James Crichton Brown's words: 'The best antidote against senile decay is an active interest in human affairs, and those keep young longest who love most.'"—SIR HUMPHRY ROLLESTON in *Aspects of Age, Life and Disease.*

GENERAL NEWS AND ANNOUNCEMENTS

PROGRAM UPPER PENINSULA MEDICAL SOCIETY MEETING

August 13 and 14, Houghton

THIRTY-FOURTH ANNUAL MEETING UPPER PENINSULA MEDICAL SOCIETY

Headquarters and Scientific Exhibits, Douglass House, Houghton.

Business and Scientific Sessions, Kerredge Theatre, Hancock.

August 13—9:00 a. m. Registration of members at Headquarters (Douglass House).

MORNING SESSION

10:00 a. m.—Welcome addresses by Mayor R. H. Shields, Houghton, and Mayor Norman Starrett, Hancock.

10:15 a. m.—Response by Dr. C. N. Bottum, Marquette, President Upper Peninsula Medical Society.

11:00 a. m.—Address: Dr. C. C. Slemons, State Commissioner of Health, Lansing.

11:30 a. m.—Paper, "Indirect Inguinal Hernia, Etiology and Treatment with Simplified Surgical Technic," by Dr. F. S. Stocking, F.A.C.S., Calumet, Mich.

12:00 Noon—Adjournment for lunch, Scott Hotel, Hancock.

1:00 p. m.—Paper, "Gastric Surgery," by Dr. Norman Allen, Associate Attending Surgeon, Harper Hospital and Instructor in Surgery, Detroit College of Medicine and Surgery.

1:30 p. m.—Paper, "Surgery of the Gallbladder and Ducts," by Dr. Waltman Walters, Surgical Section of Dr. Waltman Walters, Mayo Clinic.

2:00 p. m.—Paper, "Acute Intestinal Obstruction," by Dr. R. C. Stone, Battle Creek, President, Michigan State Medical Society.

2:30 p. m.—Paper, "Pelvic Infections," by Dr. Norman F. Miller, Iowa City, Professor Obstetrics and Gynecology State University Iowa College of Medicine.

3:00 p. m.—Recess, 15 Minutes.

3:15 p. m.—Paper, "Surgical Kidney," by Dr. Armour Fletcher, Milwaukee, Professor of Genito-Urinary Surgery, University Marquette Medical School.

4:00 p. m.—Paper, "Nephritis," by Dr. E. K. Kerr, Chicago, Professor Internal Medicine, Rush Medical School.

4:30 p. m.—Paper, "Pathology, Heart and Kidneys," Dr. V. C. Weller, Ann Arbor, Professor Pathology, University Medical School, Ann Arbor.

5:00 p. m.—Adjournment.

7:30 p. m.—Society Banquet for Physicians and Ladies at Douglass House.

Drs. Louis Hirschman, R. C. Stone and James D. Bruce will make after-dinner addresses.

Other distinguished Guests will be introduced and acknowledge introduction by rising.

AUGUST 14, MORNING SESSION

9:15 a. m.—Meeting called to order.

9:30 a. m.—Paper, "Coronary Disease," by Dr. N. C. Gilbert, Chicago, Specialist and practice limited to diseases of heart.
10:30 a. m.—Paper, "The Applications of Bone Grafting," by Dr. V. L. Hart, Ann Arbor, Professor University Medical School, Ann Arbor.
11:00 a. m.—Paper, "Surgery of Sympathetic Nervous System," by Dr. A. W. Adson, Surgical Section of Neurology, Mayo Clinic.
11:30 a. m.—Paper, "Mental Health of Children," by Dr. E. H. Campbell, Medical Superintendent, Newberry State Hospital, Newberry.
12:00 Noon—Paper, "Diseases of Rectum," by Dr. Louis Hirschman, Proctologist, Detroit.
12:30 p. m.—Business Meeting and Election of Officers for 1932.
1:00 p. m.—Adjournment for lunch.
2:00 p. m.—Golf for members desiring golf at Houghton Club.
2:00 p. m.—Clinic at St. Joseph's Hospital, Hancock, Mich.

For reservations communicate with Drs. Robert Harkness and Alfred Labine, Houghton, Mich.

President Stone will attend the August meeting of the Upper Peninsula Medical Society.

Dr. L. Ferdinand Foster was elected President of the Bay City Rotary Club.

Please note the preliminary program for our annual meeting that is published in this issue. Note the dates and plan to attend. The Pontiac members are eager to have you enjoy their hospitality.

New and Non-official Remedies, 1931, containing descriptions of the articles standing accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1931. Cloth.

Dr. Frank A. Kelly of Detroit was elected president of the American Medical Golfing Association in Philadelphia June 8. The membership of the organization is made up of fellows of the American Medical Association. Dr. Kelly's election, which was unanimous, followed the seventh annual golf tournament and dinner of the Society.

Dr. Angus McLean of Detroit addressed the Middlesex County (Ontario) Medical Society at its meeting at Pond Mills on the afternoon of July 15. He spoke on "Medicine and Its Co-Dependence." At the close of the scientific program Dr. McLean was elected by unanimous vote to honorary membership in the Middlesex Medical Association.

INFANTILE PARALYSIS OUTBREAK SPREADS

Infantile paralysis is increasing throughout the country. The number of cases reported to the U. S. Public Health Service has nearly reached the high figure of the 1928 outbreak. For the week ending August 23, there were 325 cases throughout the entire country, with over 60 cases in California alone. This state has had a high number of cases for several weeks, but the disease has lately spread considerably in eastern and middle western sections. It is probable that the outbreak will last for two or three weeks, but it is not considered alarming, officials stated.—*Science Service.*

HYPERTELORISM: FOUR CASES

According to WILLIAM ANTHONY REILLY, San Francisco, hypertelorism is a developmental defect of the lesser wings of the sphenoid bone; they ossify early in uterine life and grow excessively. This causes the typical widely separated eyes. The skull is brachycephalic. Mental retardation can occur. There are other similar occurrences of hypertelorism in families. Four additional cases in American literature are reported, bringing the total of reported cases to seventeen. Only one patient had definitely normal mentality; one had a history of previous occurrence of hypertelorism in the family. This patient possibly showed for the first time in the literature the combination of the three classic signs—family tendency, orbital separation and retarded mentality. It is more correct to refer to family tendency than to heredity in this condition.—*Journal A. M. A.*

FRIEDMAN'S HORMONE TEST FOR PREGNANCY

THOMAS B. MAGATH and LAWRENCE M. RANDALL, Rochester, Minn., believe that although the hormone pregnancy test devised by Friedman, using urine which is injected intravenously into rabbits, is simple to perform, certain precautions are necessary. In the first place, the first urine passed in the morning should be used and should be injected within an hour, or the specimen should be kept on ice until it is used. Urine older than five hours probably should not be used. If the urine is cloudy it should be filtered. Rabbits younger than two and a half months should not be used, and there is no objection to using old animals if they have not recently copulated. It is absolutely essential that rabbits be kept under such conditions as to insure their not being pregnant as well as not having recently copulated. If the rabbits are young, care will have to be exercised to be sure that females and not males are selected for the test, for the external genitalia are not so clearly recognized as in older animals. It is best to isolate animals in single cages for three weeks before using them, thus avoiding any of these difficulties. Sterile technic is not necessary, and from 7 to 15 c.c. of urine should be injected slowly into the marginal ear vein of the rabbit. Thirty hours should elapse before the animals are examined, else the test may be indefinite. Positive tests are indicated by the presence of corpora lutea and corpora hemorrhagica, which are detected by gross inspection. If they are not clearly evident, the test had best be considered negative. In the authors' series of positive animals, marked injection of the uterus and oviducts was striking. The test is both practical and accurate. It is of great value in distinguishing either early or late pregnancy from other conditions. Perhaps its greatest value will be in detecting early pregnancy in cases in which continuation of the pregnant state would be dangerous to the physical well-being of the patient.—*Journal A. M. A.*

SOCIETY ACTIVITY

Oakland County Greets You. For 111th Annual Meeting--September 22, 23, 24, 1931

Greeting from the Oakland County Medical Society

FELLOW MEMBERS *of the Michigan State Medical Society*

We, the members of the Oakland County Medical Society, extend to you a most cordial invitation to visit our community at the annual meeting of the Michigan State Medical Society in September.

We are proud that Pontiac has grown to maturity in being able to entertain this meeting, and you will make us particularly happy if you will join with us in our Centennial program, the one hundredth birthday of the founding of the first medical society in Oakland County. We believe that such a meeting should be serious in nature, and you may expect the scientific program to predominate. Plans have been made, however, for a variation in the usual annual meeting, which will feature our Centennial. You will note in the following pages that our program begins on Sunday night, September 20, and ends the evening of Thursday, September 24. We invite you to come early and feel certain you will not wish to leave until after the final evening session.

For entertainment, we are abundantly equipped with neighboring golf clubs, for those who wish diversion from the scientific sessions. We want your wives to come with you. Our Women's Auxiliary, recently formed, is anxious to entertain them.

Many of you living in this part of the State already know the facilities of Pontiac and the beauty of the surrounding country. For those coming from greater distance, we assure you that every effort will be made to make your stay comfortable, convenient and profitable. You will be truly visiting Michigan's Land of the Lakes, for Oakland County boasts of some four hundred inland lakes, all of which are easily reached by improved highways and are bounded by cottages, beautiful country estates and country clubs.

Pontiac, as you may know, is primarily an automobile city, but we will not burden you in these pages with real estate sales talk. We have endeavored to acquaint you briefly with its history and more especially with its medical aspects which we judge are your chief interest.

It is anticipated that many attending this convention will come by auto and many within driving distance may wish to return home at night; all others, we believe, we can comfortably accommodate in the hotels listed, or in lesser hotels, should the demand arise.

OAKLAND COUNTY MEDICAL SOCIETY,
ROBERT H. BAKER, *General Chairman.*

ONE HUNDREDTH ANNIVERSARY

The 1931 meeting of the State Society will witness the one hundredth anniversary of the Oakland County Medical Society.

The local society has made plans for a celebration in the form of a Health Exposition to be held in the First Presbyterian Church during the period of the state meeting.

On the Sunday preceding, a public church service will be held in the Baptist Tabernacle, at which meeting the Rev. Mr.

Savage of Pontiac will address the congregation on public health conservation. This talk will be broadcast over radio station WJR. This meeting will contemplate a memorial to those physicians and surgeons who have formerly practiced in Oakland County.

On Tuesday, Wednesday and Thursday, September 22, 23, 24, the Health Exposition will be in progress at the First Presbyterian Church. These exhibits will consist of educational features regarding health protection, diseases, prolongation of life, child care, communicable diseases, exposure of quackery, medical education and public health activities. Participants in this affair will be: State Health Department, American Medical Association, Oakland County Health and Pontiac Health Departments, Metropolitan Life Insurance Company, Visiting Nurses Association, American Red Cross, Public Schools, Oakland Motor Car Company, Fisher Body Corporation, Wilson Foundry and Machine Company, General Motors Truck Corporation, Children's Fund of Michigan and the Police Department.

Each day the public will be addressed by selected speakers who will be assigned suitable health and medical subjects. Arrangements will be made to have trained attendants at the exhibits to explain and demonstrate to the visiting public.

Extensive county-wide publicity will be secured through the coöperation of the press, Board of Commerce and bulletins.

On the last day of the meeting arrangements have been made for a public meeting in the Tabernacle of the Baptist Church, where Dr. Fishbein will address an audience upon the progress of medical science and that which scientific medicine is accomplishing. The local society has set aside the sum of three hundred dollars for prizes. These prizes are to be given to the teachers and high school students of Oakland County who present within thirty or sixty days the best essay reflecting the main points of Dr. Fishbein's address and the achievements that modern medicine is accomplishing.

MASONIC TEMPLE, PONTIAC, MEETING PLACE

We, in Oakland County, feel that this Health Exposition will create an intense public interest and that it will exercise in a large way a health influence upon the people of Pontiac and Oakland County. It is hoped that we will receive commendation and the whole hearted support of the members of the State Society to bring about the consummation of our plans.

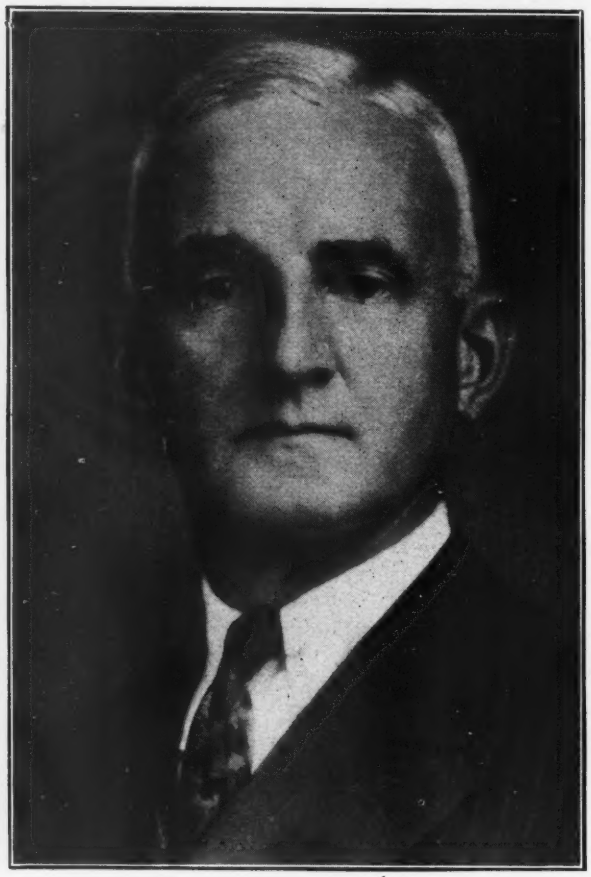
EVENING PROGRAM THURSDAY, SEPTEMBER 24, 8 P. M.

Meeting opened by Dr. Farnham, President of the Oakland County Medical Society.

Introduction of Dr. F. A. Baker, Chairman of the Centennial Committee, who will make announcements concerning the prize contest.

Introduction of Dr. F. C. Warnshuis by Dr. Farnham.

Dr. Warnshuis will introduce the speaker, Dr. Fishbein, who will speak on "Borderlines of Medicine."



Dr. L. A. Farnham, President Oakland County Medical Society

EARLY PONTIAC

Pontiac, Michigan, is located in Oakland County, surrounded by more than four hundred spring fed lakes, that nestle among the wooded hills.

Pontiac was named after chief Pontiac, famous chieftain of the Ottawas who roamed with his Indians over the hills and fished in the beautiful spring fed lakes over more than a century ago.

Legend has it that when the morning sun glistened on our many lakes, it gilded the hills about until they seemed like protecting shields of burnished gold. It shone warmly on a fertile valley. Chief Pontiac, looking down upon the scene, shielded his eyes from the bright rays, and thought here is a home for my people and so it became their home —a home beautiful, a home sheltered.

In the State of Michigan, and Oakland County alone, lie this chain of beautiful clear lakes, many of them miles in length and width with beaches of white pebbles, shaded by trees of the forest primeval, surrounded by winding roadways. Two rivers, the Huron and Clinton, run through these lakes, winding, turning and twisting till after a course of hundreds of miles they at last rest in lakes Erie and St. Clair.

These rivers in summer are dotted with the water lily and on their banks in days of old stood many a wigwam.

Orchard Lake, one of the larger of nature's gifts to Oakland County's beauty, carries within its shores a large island, wooded to its very shores. On this island are a few apple trees "Old and Gnarled," remnants of an orchard planted so long ago that the Indians have no date of its planting. This island was named "Mennah-sa-gor-ming," meaning "Apple Place," which still lives in tradition. It was on this island the Algonquin Chief Pontiac had his lodge after his repulse at the siege of Detroit. Orchard Lake, the scene of many old traditions, lies almost in the center of Oakland County, of which Pontiac is the county seat. Rarely does one find a city so surrounded with natural resources and beauty, plus the foresight and advantages of man's commercial genius.

Pontiac is a fast growing industrial center; its first white settlement was established in 1818 and in the next century its population grew to 30,000 inhabitants. In the last twelve years it has grown to nearly 65,000 population. Here are located many units of the automobile and allied industries. The buildings cover many acres of floor space, whose equipment is the very latest product of man's productive engineering skill.

Pontiac has many beautiful commercial and civic buildings. Its merchants are alive and up to date in caring for the public needs. Its schools and churches are second to none in Michigan for a city of its size. Here the youth of today are trained to build for the future a Pontiac of civic achievement, moral culture and manufacturing skill, which will be kindred to our past growth.

Very aptly has Pontiac been called the Summer Wonderland of Michigan. It can be reached from every point of the compass on improved highways. If you have never

motored over these highways you have missed many of the most charming drives imaginable. Wider Woodward, the Wonder Super Highway, leading south from Pontiac through Bloomfield Hills and other cities of picturesque beauty, finally lands one in the City of Detroit.

Pontiac is well prepared to play a good host to its visitors and tourists through its three hotels and information facilities of its Board of Commerce at 17 East Huron Street.

PONTIAC GENERAL HOSPITAL

Formal opening of the Pontiac General Hospital was made Monday night, January 19, 1931, when the medical staff of the institution, city officials and a number of invited guests had dinner in the staff dining room. During the evening Architect Leo J. Heenan turned over the building to City Manager James R. Pollock, who accepted it on behalf of the city.

Monday night's program consisted of short talks by men who have been closely associated with the planning of Pontiac's hospital program and the building of the new institution, and an address by Dr. E. R. Crew of the Miami Valley Hospital of Dayton, Ohio, and an authority on hospital planning and organization.

A number of facts are outstanding among the hundreds of amazing and interesting details to be learned about the city's new hospital. In all of Detroit, there is no finer hospital than Pontiac's newest institution, according to Dr. Crew.

The cost of the new building has been 54 cents a cubic foot and Dr. Crew told his hearers Monday night that the average cost of hospitals in the United States was from 75 cents to $1.00 a cubic foot.

With the addition of the new hospital, Pontiac's total hospital bed capacity is still approximately 100 beds below the minimum recommended by the American Hospital Association for a city of this size.

Dr. Crew in addressing this meeting remarked: "The first consideration for a patient is comfort and you have cared for that —ample light, ventilation, phone and radio service. The sound limitation is excellent. It is not the external noises that annoy patients, but the internal—doors banging, loud talking and the like. You have insulated against all that. I have inspected hospitals costing more than $1.00 a cubic foot and the workmanship and materials did not begin to compare with this, which has cost you 54 cents a cubic foot. You have spent wisely. A hospital is a medical center for a community and an educational center: your staff meetings, your internes in training and your nurses. You will soon wish

DR. DONALD F. HOYT, SECRETARY OAKLAND COUNTY MEDICAL SOCIETY

to establish a nurses' training school for a hospital of this size needs such a school. You have provision for an out-patient department and, when this is in operation, many can leave the hospital beds sooner and return for minor attention. Your city is to be congratulated on its accomp'ishment and I do not think that Detroit has anything better than you have here to offer in the way way of hospital facilities."

Dr. Christian, who was on the citizens planning committee for the hospital, presented to the city and the hospital, a library of some 300 volumes of medical journals and other books which he has collected. These books date from 1850 and are a consecutive record of medical practice and prog-

ress and will form a nucleus around which a hospital library may be built. Since the hospital was opened in January, many of the doctors have made substantial contributions which have been expended in the furnishing of the doctors' library. Many donations of current medical books have been made and the staff subscribed to 12 current scientific journals covering all specialties.

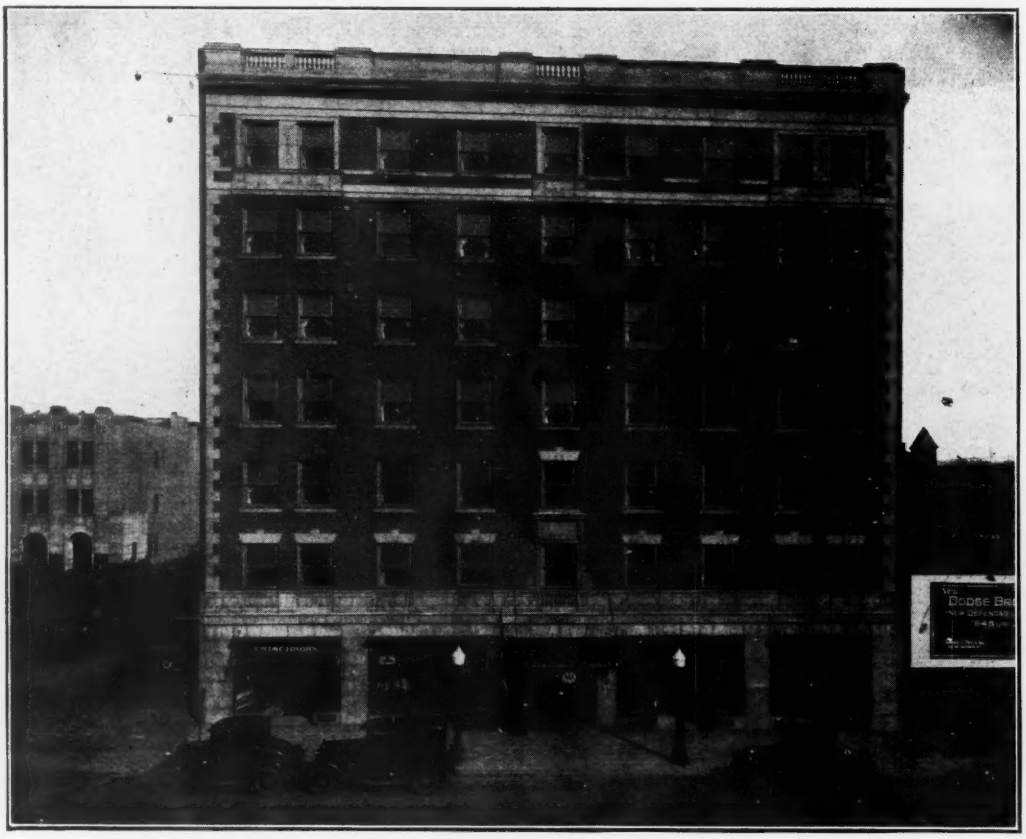
With the opening of the new hospital unit Pontiac has a hospital which is as modern as scientific planning and modern building methods can make it and an institution which is on the conditionally accredited list of the American College of Surgeons.

Hospital activities in Pontiac began May 14, 1901, when six ladies met and organized the Oakland County Hospital Association. At that time there was no place to care for the sick or injured except in the county jail.

In 1909 the first unit of the City Hospital was built, with a capacity of 15 beds; in 1914 an addition of 15 beds was made and in 1921 a second addition increased the capacity to 65 beds. In 1925 the hospital was placed in complete charge of the city.

When it became apparent a few years later that hospital expansion would be essential, voters approved a $100,000 bond issue as a start for the building fund and a citizens' committee set about studying the hospital needs of the city.

Need for greater facilities was shown in the increasing number of patients each year. The figures follow: 1924, 1,587; 1925, 1,861; 1926, 2,775; 1927, 2,845; 1928, 3,106; 1929, 3,327. The 1926 increase was experienced despite the opening of St. Joseph Mercy Hospital that year and the increase in following years was limited by the capacity of the hospital.



HOTEL HELDENBRAND

Voters of the city approved another bond issue of $450,000 in the spring of 1929 and in the fall of 1929 ground for the new building and for the new power plant building was broken. The new hospital cost about $610,000.

The new building is entirely fireproof and much thought has been given in its construction to reducing upkeep and care by proper building methods. Walls and ceilings are soundproof; long corridors are broken by

HOTEL WALDRON

HOTEL ROOSEVELT

swinging doors; all corners and supporting platforms are rounded and coved for ease in cleaning.

Windows are of the steel casement variety and are designed to admit air without draft and to remain open during rain without admitting the rain.

The first, second and third floors are to be used for rooms and service quarters. The fourth floor will remain unfinished for the present. In the basement are located the kitchens, staff dining rooms, storage rooms, drug dispensaries, rooms for the eventual establishment of a clinic, and rooms for emergency treatment of accident cases. Ambulances and other cars bringing or taking away patients may drive into the building when weather is unfavorable. The treatment of emergency cases in the basement near the ambulance entrance will keep the noise and confusion from other patients.

The fifth floor of the new building is devoted to surgery, X-ray, physiotherapy and laboratory work and on this floor will be found the most modern equipment available and many unusual features planned for the safety and comfort of patients.

There are three operating rooms located on the north side of the building. They are finished in light green tile with green terrazzo floors. There is ample light, both artificial and natural, and a special interior glass panel protects the room from window drafts.

A number of unusual features have been built into the operating rooms of the surgical department. Oxygen, air and certain anesthetics will be supplied by pipes from a special tank room, and another pipe line will furnish a vacuum, replacing the former system of taking the tanks into the operating rooms. Oxygen from the central control room will also be piped to the nursery, where it may be used in the treatment of babies.

The terrazzo floors of the operating rooms are completely underlaid with wire, the metal joints soldered and the entire system grounded to prevent creation of static electricity.

PONTIAC GENERAL HOSPITAL

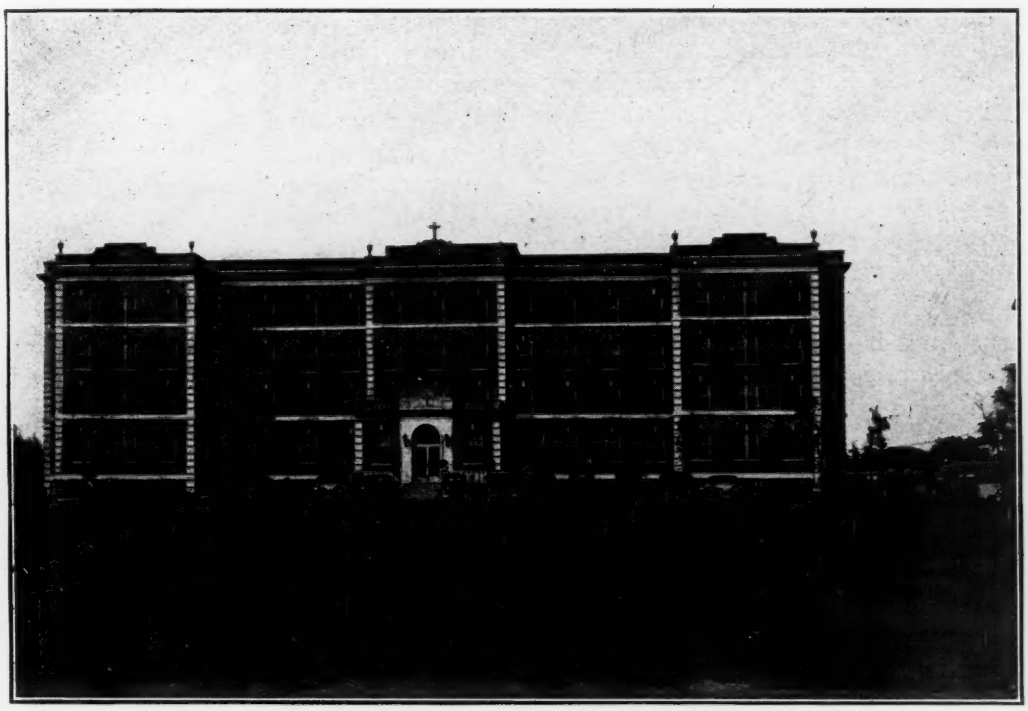
Between the operating rooms are special surgical sterilizing rooms in which all instruments and other equipment may be subjected to high steam pressure before and after use.

In addition to the special surgical sterilizing rooms, a large sterilizing room for use of the entire hospital is on the fifth floor. The large steam chamber here can accommodate mattresses or large bundles of bedding, as well as smaller articles. All table tops in this room, as throughout the building, are of monel metal.

provided to carry off fumes from the vault in case of an emergency.

Other rooms on the fifth floor include a physicians' lounge and locker doom, a waiting room for outpatients who may come for X-ray work, a nurses' station and utility rooms which include, in addition to the usual equipment, closets to heat blankets, drying cabinets and like accessories. A large sun room for physiotherapy is also on this floor.

Forced ventilation is provided in many rooms, such as the operating rooms and in



SAINT JOSEPH MERCY HOSPITAL

All X-ray work will be done on the top floor. Three rooms are devoted to fluoroscopic, radiographic and cystoscopic work and a special dark room for handling and developing plates is provided.

A feature of the X-ray department is a special fireproof vault for the storage of films. Use of recently conceived films removes much of the danger from fire or explosion but as an added precaution all X-ray films are stored in a concrete vault, protected by double steel fire doors. The vault is in an outside wall on the west side of the building. Vacuum enclosed lights and other devices guard against stray sparks and a sprinkler system will operate in case of fire. Special ventilators leading to the outside are a section of the laboratory, to carry off fumes from the chemicals in use.

Electric clocks in the operating rooms are provided with second hands in order that an accurate check of time may be made.

Many features which might easily go unnoticed have been incorporated in the building, such as arm hooks on doors of the surgical department in order that all doors may be opened without touching them with the hands. Water faucets and drains may likewise be operated with the arms and knees, without the use of the hands.

The nursery is located on the east side of the new building on the third floor. Fond relatives and friends of new arrivals will discover that the nursery has ample window

space through which the babies may be viewed from the corridor but has only one door from the general passageway, and that one is to be rigidly guarded when the nursery is occupied. Visitors from the outside present a real danger to small babies through the possibility of bringing dirt and disease germs on their clothing, hospital officials declare. So the nursery is built to afford ample viewing but no meddling.

In the main nursery, bassinets will be provided for 25 babies and in the isolation section nine others can be accommodated. The isolation section is a part of the nursery in which each bassinet is in a separate compartment and is for children brought into the hospital from outside or who for any reason are to be isolated from the others. Between these two divisions is the work room for washing and caring for the babies. Special wall panels and interior windows protect the nursery from outside drafts while permitting plenty of ventilation.

The nursery is soundproof and any noise or crying cannot be heard in nearby rooms. The entire obstetrical department was furnished by the Oakland County Hospital association.

Convenience and comfort of patients have been given prime consideration in the new hospital. Every private room will have a telephone connection as well as a radio plug through which the patient may connect earphones with a central receiving set.

In private rooms there is a separate toilet room and a closet for clothes containing a locker for personal effects and valuables. The four-bed wards are provided with a locker room between each two wards in which the patients' clothes and belongings are safely stored.

The call system for nurses is an improvement over the old systems. In the system installed in the new hospital, a patient's call shows above the door, in the nurses' station, the service kitchen and the floor's utility room. Hence the patient's call will be visible at any point at which a nurse on duty is likely to be at work.

While the new building is entirely fireproof, a regulation city fire alarm is installed with a call box on each floor. Any alarm of fire will register in the hospital office and in the Central Fire Station and register not only the hospital but the floor from which the call comes.

The heating plant of the hospital is in a separate building behind the main structure. Here are located two high pressure steam boilers with a combined capacity of 504 horsepower. Only one is used at a time, the other being in reserve. All vital service equipment in a hospital must be duplicated for safety as interruption of heat and similar services might result seriously to many patients.

Water softeners and pumps and other mechanical equipment are located in the power plant, as is the hospital's own laundry department. Soiled linen is dropped from the various floors through glass lined clothes chutes so built that they may be cleaned with scalding water.

Most amazing among the mechanical features of the hospital is the automatic electric elevator. The elevator, said to be the first of its kind in the state, displays rare intelligence. When it is carrying a capacity load it will continue past waiting passengers and discharge its load and then, without further signal, return to the waiting passengers and pick them up in the order in which their calls were placed. An order placed with this modern elevator is carried out eventually, even though the machine has several previous orders to execute first.

ST. JOSEPH MERCY HOSPITAL

The campaign for the St. Joseph Mercy Hospital was begun in June, 1925. This campaign was the result of effort extending over a period of two or three years by local citizens with the coöperation of Dr. C. G. Darling of Ann Arbor. The project began to take form with a donation by Fred W. Warner of a site on which to build a hospital, when the Sisters of Mercy expressed a willingness to come to Pontiac.

Some time later the Sisters of Mercy of Dubuque, Iowa, outlined their plan by which they would construct the new hospital in Pontiac. This roused to action the service clubs in Pontiac and a campaign committee was appointed. The result of this effort was a subscription of $235,000 by Pontiac and neighboring citizens, which amount was more than matched by the Sisters for the construction of the hospital.

The hospital was formally dedicated May

9, 1927, which gave to Pontiac a substantial realization of civic effort and generosity on the part of the Sisters of Mercy. This building, as first opened, consisted of a four story brick structure with a capacity of 125 beds.

Entering the front door, one climbs a dozen or so steps to enter the lobby. From the lobby, on a line with the entrance, doors to the right and left lead to comfortably appointed reception rooms. To the left is a wide archway which connects with the general office of the hospital. Behind this office is the private office of Sister Carmelita, superintendent.

PONTIAC STATE HOSPITAL, MAIN BUILDING

Passing through the lobby, one enters the hospital proper and the long central corridor, running in both directions, leads to various private rooms. Directly in front of the lobby entrance are the two automatic elevators, and beyond this is a sun parlor for patients. The first floor is almost entirely given to patients of the medical department with the exception of the house doctor's apartment, the chaplain's apartment, chaplain's dining room and the beautiful chapel.

On the second floor is located the surgical department, record room, doctors' offices, pharmacy, completely equipped; dressing room, sisters' quarters and laboratory. The entire surgical department is finished in a light green shade of tile walls and terrazzo floors. There are four large operating rooms for general surgery and one tonsillectomy operating room. Other rooms in the surgical department include the doctors' locker with lockers for 20 surgeons; and dressing rooms, and the doctors' scrub room. On this floor also is a central dressing room and a large record room. The laboratory is also located on this floor near the southern end and has every device known to modern medical science in prevalent hospital use. Complete bacteriological, serological and pathological tests can be made in this laboratory.

The third floor is devoted almost entirely to patients' rooms for the surgical department.

The fourth floor is the obstetrical department and here are located the nursery, mothers' room, obstetrical room, infants'

field work during the past year, including a detailed account of the trip which he made recently to the schools in the northern part of the southern peninsula. On this trip he visited twenty-two schools. Of the twenty-two schools visited, twenty-one accepted without question the proposed health program for next year. Twenty of the twenty-one schools for which health education programs were arranged, expressed a desire to have the health program put on in coöperation with the State Health Course of Study.

4. Treasurer's report. Report of the Treasurer, Dr. Warnshuis of Grand Rapids, was read by Mr. Henderson. The following is a summary of the receipts and expenditures: Receipts, $4,096.85; expenditures, $1,776.93; balance on hand June 1, 1931, $2,319.92. The report as given in detail was accepted and placed on file.

5. Publicity Committee. Dr. Bruce, Chairman of the Publicity Committee, was unable to be present on account of illness. His report was read by Dr. Jackson.

6. The proposed three-year health education program. The President now called upon Dr. Henderson to give an outline of the proposed three-year health education plan. The salient features of this report were as follows: The Joint Committee on Public Health Education was organized in 1921. Its purpose, as stated in the slogan which appears on all publications, was "to present to the public the fundamental facts of modern scientific medicine for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting any school, sect, or theory of medical practice. It will send out teachers, not advocates." During the past ten years the activities of the Committee may be divided into two distinct stages. The first four years, that is, from 1921 to 1925, may be characterized as the organization stage. The second phase, from 1925 to 1931, was a period of experimentation, based largely upon the trial and error method. It is the opinion of the Secretary that the time has now arrived when we should engage in a more definite educational work, and to this end he proposed a tentative three-year educational program which includes the following distinctive features:

First, the educational work, including the organization of health programs for high schools and Parent-Teacher Associations, and such other administrative duties as may be associated with the program, is to be under the direction of Dr. C. A. Fisher. Dr. Fisher's acquaintanceship with the schools and the schoolmen of the State, and the fact also that he is Chairman of the Parent Education Committee of the State Parent-Teacher Association, fit him especially well for this administrative work.

Second, Dr. Soller will be assigned the field work which is to include personal contacts with local medical societies, the organization of courses, and the giving of lectures in connection with assignments made by Dr. Fisher.

Third, that phase of the work which has to do with the selection of a staff of lecturers will be in direct charge of Dr. Henderson. The task to which he proposes to direct his attention is to increase the number of speakers and to organize the same, both with reference to geographical distribution and speaking efficiency.

Fourth, this phase of the proposed program has to do with the preparation of a Lecture Outlines Library. This will include the preparation of lecture outlines mainly in the form of synopses of important subjects for presentation in connection with Parent-Teacher Association programs, and especially in connection with the State Health Course of Study program. The work is to be under the direction of the Outlines Committee, of which the Secretary is an ex-officio member. It is planned to have the Committee select some person, or persons, to assemble and arrange the material for the various outlines, after which the Outlines Committee will determine upon the final form of the material. In order to carry out this proposed plan for the building up of a Lecture Outlines Library, it was pointed out that certain funds would be necessary. It was suggested by the Secretary that the funds which heretofore have been allocated for carrying on the contest program, together with an additional sum sufficient to bring the amount to $500.00, be made available for the preparation and publication of outlines.

At this point Dr. Jackson read the following excerpt from a letter from Dr. Bruce, Chairman of the Outlines Committee: "I am much interested in your proposed three-year Health Education Program which involves an expenditure of about $500.00 annually for this period. The building up of a Lecture Outlines Library seems so necessary to the success of our lecture program that I am unqualifiedly favorable to it. As to the sources of the necessary funds for the undertaking, I suggest that the amount stated might be withdrawn from the Publicity Fund. I feel quite safe in recommending this for the first year at least, and do not believe it either advisable or necessary to call for further contributions from our group. Through the adding of twelve or fifteen lecture outlines a year, besides those now being done, you will soon develop resources which will be much appreciated by the doctors of the State who are so frequently called upon for addresses upon subjects with which they are unfamiliar."

After a brief discussion of the proposed three-year program, it was moved by Dr. Jackson and seconded by Dr. Shackleton that the program as outlined by the Secretary be approved and that $500.00 of the funds of the Joint Committee be allocated for this work.

7. Upon motion of Dr. Sundwall, it was voted to ask the Children's Fund of Michigan and the Kellogg Foundation to become members of the Joint Committee through officially appointed representatives.

8. It was moved that the next meeting of the Joint Committee be held in conjunction with the Medical Council.

9. The meeting adjourned.

W. D. HENDERSON, *Secretary.*

USE OF SPINAL ANESTHESIA IN UROLOGY

ARTHUR L. CHUTE, Boston (*Journal A. M. A.*, Jan. 10, 1931), never uses spinal anesthesia for kidney operations, but confines his use of it to operations on the lower part of the urinary tract. He says that there are a few contraindications to the use of spinal anesthesia. A very nervous or mentally unstable patient or one who is strongly prejudiced against its use rarely does well under it. He rarely uses spinal anesthesia in young persons. Besides the 840 times that he has made use of spinal anesthesia in prostatectomies he has made use of it many times for other operations on the lower urinary tract, such, for instance, as operations on bladder tumors, crushing stones, painful cystoscopies, fulgurations, closing suprapubic fistulas, as well as in a considerable number of urethrotomies, both internal and external, and in a few cases of urinary extravasation. Few complications were encountered.

REPORT OF PROCEEDINGS OF SPECIAL MEETING OF COUNCIL OF MICHIGAN MEDICAL SOCIETY, AND INVITED GUESTS, HELD AT THE HOTEL STATLER, DETROIT, MICHIGAN, TUESDAY MAY 19, 1931

The meeting was called to order at 1:30 o'clock P. M.

Dr. Corbus (Chairman): Gentlemen of the Council, and invited guests:

In the opinion of your chairman and the Executive Committee, there are certain matters presenting themselves of such importance as to justify calling of this special meeting of the Council. These matters are inter-related in that they concern various activities which are directed towards the improvement of the health and social conditions of the people of the state, activities in which we doctors are vitally interested, and necessitate a decision on our part as to what our official attitude in regard to them shall be.

As a foundation for a discussion it is important that we have a fuller knowledge of these activities as they exist today, and, so far as may be obtainable, the future plans and objectives. We are privileged to have with us the heads of several of the organizations that are behind these activities. I trust you will pardon a word or two of introduction before I call on these guests.

The end of the first hundred years of the Michigan State Medical Society came some little time before the war. During this period its activities were quite self centered. They were directed towards better fellowship, ironing out local differences, of which there were many, scientific improvement such as might be obtained by the reading of papers, and the discussion of cases in get-together meetings. All in all the activities were quite largely for the benefit of the individuals composing the society.

With the ending of the first hundred years of the society, we, for the first time as an organization, engaged in an activity which indicated that we felt that we had a true obligation to the community. This first activity was promoted by Dr. Victor Vaughan, who induced the Society to combine with other agencies to make a survey of the cases of tuberculosis in the state—the first social work, so far as I know, that had been undertaken. Since this time, and most particularly in the last eight or ten years, the Society has become more and more conscious that it has a distinct obligation to the public to do its part in what may be termed "social work." Particularly did we feel that we had a duty to the public to instruct them along both public health and personal health subjects.

A connection with the University and its Extension Department enabled us to meet a considerable number of the laity in groups. From this beginning came the Joint Committee on Public Health and Education.

Some years ago we made a survey of maternal mortality of the state, not an exhaustive survey, but enough to show that there was a great weakness in the satisfactory practice of obstetrics, and great need for instruction of the doctor himself. This survey intensified the feeling on the part of your officers and this council that there was great need for post-graduate work. It became very evident that the doctor who had come out of school reasonably well trained, frequently grew but little in professional ability, except as he learned from experience, and so we started, as you know, the Post-Graduate Clinics throughout the state, later to be combined with the Post-Graduate Department of the University, the establishment of which was, to no small extent, due to this Society.

With the help that we have obtained from the Couzens Foundation, we cover the state quite thoroughly today, bringing new things in medicine, and old things too, to the doctor in his home, hoping that we can bring him something that is worth while, and also hoping that we may stimulate him to go further.

Conditions are changing rapidly, and a situation which is interesting to students of social welfare throughout the country, is the availability of money set aside by philanthropic individuals for the improvement of the health of the public through definite health and educational activities. The activities of these splendid philanthropies are directed, in most instances, through Foundations, of which there are several in Michigan.

The executive committee of the council

feel that it is equally important to the profession of Michigan and to the Foundations, that there shall be coöperation and a degree of affiliation between them. What that affiliation shall be will depend, of course, on the opportunities that are given us by these Foundations and your attitude towards them. Certain it is that the Michigan State Medical Society is anxious to do its part in the improvement of the health of the people of this state. We are quite willing to make sacrifices to the cause, but the occasion should come as the result of intelligent study and should be justified by results. Among the profession there are those who have a certain concern about some of these activities. I fancy that a large part of this concern is due to a lack of knowledge of the purposes and the program of those directing them.

Not always has the profession been as helpful in the activities of the Department of Health of the State as might be desired. This is much less true today than it was some years ago. Here again it is important that there be a close interlocking of activities, and since in very recent years there have been some very marked changes in the procedure of reaching the people through the Department of Health—and I particularly refer now to the "County Units"—it is well that the plans of the Department of Health which are now in existence and which are proposed, be presented to us that we may know more about them, because, after all, as I said before, it is by close cooperation that we are going to give the most in health to the people of the state.

There will be also a discussion during the afternoon, in regard to the plans of the Anti-Tuberculosis Society to utilize the Post-Graduate Department of the University and the State Medical Society, in their clinical work. I might say, in reference to this particularly, that as a council our great ambition has been to educate the doctor, to make better doctors. We believe that in anti-tuberculosis work, and this might well be said of all medical work, there is no plan of education of the laity equal to the instruction that they can obtain from their home doctor. We believe, too, that the help that we can give to make the doctor efficient in the diagnosing and handling of his case is, perhaps, the greatest work that we can do.

To these guests of ours let me say that we are here because we want to know more of what is going on now. We want to know something of the plans for the future. We want to know how we can best coöperate with you with the common aim to bring better health and better social conditions to the people of this state.

Department of Health

Dr. Corbus (Chairman): Certain new activities of the Department of Health have been developed in the last few years, and I am now asking Dr. Slemons to tell us about them. Dr. Slemons.

Address by Dr. C. C. Slemons

State Department of Health
Lansing, Michigan

Mr. Chairman, and members of the Council, and friends:

I wish to state at the onset that it is a pleasure to be with you this afternoon. The Michigan Department of Health, as you know, has been one of the outstanding state departments for a great many years. In fact, it was one of the first ones organized. As you know, I have represented this department for only a comparatively few months, and the work that is being done at the present time is work started by my predecessors in office. As far as I know, there has been no change in the policies or in the activities during the past year.

Your chairman, in introducing me, stated that I would discuss some of the new developments. I am very briefly going to take you over the entire activities of the Department. Do not get frightened, because I am not going to detain you very long. The public health story at the longest is a short one. With your permission, I shall briefly outline the activities of the Department and, following your chairman's letter to me, I will devote perhaps the longest part of what I have to say to you to the county health departments in Michigan.

First, I want to take you very briefly over the history of the Michigan Department of Health. It was first organized April 12, 1873. The members of the first board were Homer O. Hitchcock of Kalamazoo; Robert C. Kedzie of Lansing; Herman F. Lyster of Detroit; Zenas E. Bliss of Grand Rapids; Reverend Charles H. Brigham of Ann Arbor; and Reverend John S. Goodman of Saginaw.

In 1887 the first bulletin on typhoid fever

was published. In 1894 tuberculosis was made reportable. In 1907 the laboratory was established. In 1913 the first sanitary engineer was appointed, and supervision of water supplies and sewerage systems authorized by legislative enactment. In that connection, I wish to say to you that there has just passed the Legislature a bill whereby the plans for sewage disposal plants and waterworks will be presented to our engineering department before the same are installed. The present law, since the first enactment, brought these plans to us after many serious mistakes had been made throughout the state. We have been able to get through the present Legislature a bill whereby the plans are submitted to our engineering department before the work is started in the various communities, so that it will save a lot of expense and a lot of trouble to these communities throughout the state.

In 1915 a branch laboratory was established in the Upper Peninsula. In 1915 the Legislature appropriated $100,000 for a tuberculosis survey. In 1919 the State Board of Health was reorganized by act of Legislature. The State Department of Health, under the commissioner and advisory council, was established. Laboratory activities were reorganized and placed under the Bureau of Laboratories.

In 1919 intensive work in venereal disease control was instituted upon request of the Federal Government. In 1921 the Bureau of Venereal Diseases was abolished, and the reporting, law enforcement and clinical supervision was placed under the bureau of communicable diseases, and the educational activities enlarged to include all communicable diseases, and placed under the bureau of education.

In 1920 the Bureau of Child Hygiene and public health nursing was established. Provisions of the Sheppard-Towner act were accepted by Governor Groesbeck in 1922.

In 1921 the vital statistics records were transferred from the Secretary of State to the State Commissioner of Health.

In 1921 the State Commissioner of Health was authorized to purchase and manufacture biologics for the prevention and control of diphtheria.

In 1924 intensive field work in communicable disease control was placed under the bureau of epidemiology, and communicable disease records under the bureau of records and statistics.

In 1925 a branch laboratory was established in Grand Rapids. In 1925 the Bureau of mouth hygiene was organized.

In 1927 the bureau of industrial hygiene was organized; also the establishment of county health departments was authorized by the Legislature. The same year, the manufacture of biologics for control of all communicable diseases was authorized.

Your State Department of Health consists of the public health council, consisting of men with whom you are all acquainted: Dr. Hirschman of Detroit; Dr. Chalmers Lyons of Ann Arbor; Dr. Curry of Flint; Dr. Brucker of Lansing; Dr. Harkness of Houghton. You are familiar with the organization.

The Chairman, in his opening address, spoke about the plans and so on for county health departments. I wish to state at this time that plans for health activities are practically the same wherever they may be found. In your large cities, your smaller cities, your counties and your districts, the problem is the same. It is not different in one place than another, except that the more people you have, the more complicated the process. In other words, a human being is a human being, whether he is in Detroit, or up in Roscommon County. It doesn't make any difference, and he is entitled to the same protection. Your health program, wherever it is found, is along the same line. I believe what it does depends very largely upon the man you place in charge.

The objective of all health department practice is the control of preventable diseases and the securing of health for all the people. The first necessity to obtain this objective is full-time health service with adequate trained personnel for every community. I want to repeat that: The first necessity to obtain this objective is full-time health service with adequate trained personnel for every community. This organization will accomplish a reduction of maternal mortality, making motherhood safe in the United States; it will secure normal growth of body and mind for children; it will promote the health of adults; it will give an adequate supply of safe milk for every community; it will give an adequate supply of pure water for every community; and, lastly, it will give us the elimination of tubercu-

losis, typhoid fever, diphtheria and smallpox, because these communicable diseases should be eliminated with our present knowledge.

The Michigan Department of Health consists of 10 bureaus, 180 employees, and has a budget of approximately $500,000 per year. We do not control in any way our activities, the amount of work done. In other words, in most of our bureaus we have to do the work that is sent to us. For instance, we have the bureau of vital statistics. They have to take care of the work that is sent to them. We have our laboratories; and we do the work that is sent to us from the physicians of Michigan; we have our biologic plant, and we send out the material that the medical profession of Michigan asks for. And the engineering department, the same way. In other words, we do not control the amount of work that we have to do; that is in other hands. We do the work we are requested to do by the physicians of Michigan.

Our bureau of laboratories and biologics spends approximately one-half of our entire appropriation. It may be of interest to you to know that there are only eleven biologic plants in North America; there is one in Canada, one in Mexico, and nine in the United States. Of these nine in the United States, six are commercial, and three are state health department plants in the following states: Massachusetts, New York and Michigan. Not all of those commercial plants manufacture a full line of biologics. During the year 1930 our biologics plant sent out (and distributed) to the physicians of Michigan over $210,000 worth of biologics; it would have cost $210,000 at our lowest contract price. In other words, if we had gone out in the open market and bought these at the lowest contract price, it would have cost us over $210,000. If purchased by you people, by the doctors of Michigan, at the regular retail price, it would have cost over $1,000,000. I might state in passing that a package of diphtheria antitoxin that costs $10 in the retail drug-store, we manufacture for 87 cents.

Last year in our laboratories, we examined over 300,000 specimens.

In the Bureau of Records and Statistics, we took care of the records of over 100,000 births, 50,000 deaths, 30,000 marriages and 10,000 divorces.

There is the Bureau of Engineering, as I stated a moment ago, and their work is largely consultation and having to do with sewage disposal plants and municipal water supplies.

Another bureau is that of child hygiene and public health nursing. This was the bureau that carried on the maternal mortality survey that was made two or three years ago, with which all of you physicians are familiar. I think the workings of this bureau are known to all of you. Then, there is the bureau of epidemiology which has to do with the control of communicable diseases. The bureau of education is the bureau which gives out our material for the state. The bureau of mouth hygiene is in charge of Dr. Davis, and you are familiar with that. The bureau of industrial hygiene has been added to the list. Then we have the bureau of embalming. We also furnish in part an investigating officer for the State Medical Society, our Mr. Potter acting in the capacity of a police detective, and so on, arranging for prosecutions and so forth.

The department also arranges for speakers for medical meetings, especially on the post-graduate courses that are being held throughout the state; and the department has for several years been furnishing material for the State Journal.

The last bureau, and the most recent bureau, and the one that has had the greatest activity, is the bureau of rural hygiene. That is the bureau that has charge of organizing the county health departments. And, I judge that is one of the questions that you wish discussed rather fully here this afternoon. And we can discuss it fully, and do it quickly, because there is not very much to say about it, after all. I have brought this map. I have used it before. I brought it down, in order that you might have an exact idea of how much of the area of Michigan is today under what I call very good health department practice.

I stated to you at the start that one of the essentials for this organization is a competent personnel. Now, this area represents the area of four districts, sixteen counties that are in charge of the Children's Fund of Michigan. (Indicating on map.) These counties represent the counties that are supporting themselves with the aid of state subsidy and the help of the Rockefeller Foundation and the United States Public Health

Service. These two counties, Barry and Ontonagon, have been recently organized, but the work at the present time has not been started. Barry County starts the first of June, and I do not know the date that Ontonagon County will begin operations.

Oakland County, Genesee, Saginaw, Midland and Wexford were organized up to a year ago. Since last summer we have organized Isabella, Kent, Ottawa, Barry and Ontonagon.

The sad part of this situation to me is that there will be no further increase in this work during the next two years, for the reason that the Legislature refused to give the additional money we asked for. They gave us $30,000, and that is a $10,000 increase over two years ago. But, if you will notice, we have the ten counties taken care of right now. So that, for the next two-year period there will be no opportunity for further development of rural health work.

I wish to read to you the law, and it is very brief, governing the formation of county health units in Michigan.

"Section 1. The Board of Supervisors of any county in the state may provide for a county health department to be paid for out of the general funds of the county.

"Section 2. The plan of organization shall be approved by the State Health Commissioner.

"Section 3. The Health Commissioner shall be selected by the Board of Supervisors.

"Section 4. A health officer may be removed for incompetence, or misfeasance of office by the Board of Supervisors, or by the State Health Commissioner, after due hearing.

"Section 5. The county health department shall have jurisdiction throughout the county, except in cities having an organized health department with full time health officer, except that such cities may elect to join with the county in the organization.

"Section 6. The county health department shall have the administration of all health laws and the control of communicable diseases under the advice and direction of the State Department of Health."

Section 7 deals with how two or more counties may be joined together. I will not read that. That is merely mechanical. You can have two counties, or three counties, or four. By each county having a representative, they meet, and the organization in the end will be the same as the single county.

"Section 8. All claims against the district health department shall be audited by the district health board," etc.

"Section 9. Act No. 130 of the public acts of 1917, and all overt acts or parts of acts in conflict herewith are hereby repealed.

"Section 8-2. When approved by the State Health Commissioner, the State Auditor-General shall refund to the county maintaining a county health department, either singly or united with other counties, not to exceed 25 per cent of the cost of maintenance of such department, payments to be made quarterly: Provided, that said refund shall not exceed $3,000 per annum for any such county or health district. The State Treasurer shall act as disbursing agent for the Michigan Department of Health in disbursing all other funds received by said Michigan Department of Health for such county or district health service."

One of the difficult things we have had to meet in the organization of county health departments has been proper personnel for the conducting of these county health departments. You know that public health work is comparatively a new field, and the success of any of these units depends entirely upon the men and women you get to put in those fields. If you have a good health officer, you need have no fear regarding the success of any of these units. A poor health officer, by the same token, will give us a failure just as rapidly and just as quickly. It is not only true in Michigan, but it has been true throughout the United States, that the serious question has been a properly trained personnel for these activities. In order to obviate this, and in order to meet this need, some two years ago Dr. Kiefer and the Rockefeller people conceived the idea of starting a training school in Lansing, the purpose being to take people interested in public health work and give them a very intensive course, that they might at least know the objectives and the plans of a county health unit. We have been very fortunate in the type of man that the Rockefeller people have sent us. He has been conducting, with the help of the various bureau heads of our department, a three months' training course for doctors and for nurses. The Rockefeller people have sub-

sidized this man; they pay him $1,500; our department pays him $4,500 a year; and they have subsidized the people taking this course; every doctor going there gets $5 a day, and the nurse gets $3 a day. These people have been given a three months' intensive training, to get them at least acquainted with the requirements and methods of what is considered good public health procedure.

I am sorry to state that unless we get reinforcements from some place, this school must be discontinued, because we haven't any place to put the additional people. We are working in two or three places now to see if we can get a little additional money for the next two years. The law reads like this, and it is just exactly like the tuberculosis law: "The Auditor General shall pay to these counties a sum up to $3,000 a year." We could go on and organize other counties in the state, providing they are willing to wait two years for their money. But, with the present financial conditions, and the feeling among the boards of supervisors, unless they can get their fingers on this money to start with, I have very faint hopes of seeing any additional units organized for the next two years. However, if a county wishes to go ahead and organize, they would be entitled to that money through a deficiency appropriation, the same as the present State Legislature did appropriate $1,250,000 to make up the difference of the last appropriation, the amount that is due the various county and city sanitaria in Michigan.

In this training school only procedures are recommended. Methods have not been stressed. You can all readily recognize that methods that might be applicable in one county or one place would not be proper in another. The things that you can do in Flint, you could not possibly do in Lansing; and things that you can do in Lansing, you cannot do the same way in Kalamazoo, and so forth. That is true in the various counties throughout the State. The training school has emphasized and urged certain procedures, but does not specify methods, because we leave the question of methods up to them, after the unit has been organized, and the local situation appraised.

I do not think methods should be taught because, as I stated before, what you can do in one place you cannot do in another.

Before attempting to organize a county health department in any particular county we must have had an invitation to do so from the county medical society. After the board of supervisors has voted to establish a county health department and is looking for personnel it has been our policy not to interfere with the local county organization having this in charge. We do not say to Isabella County or to Midland County, "You take this man or that man." Personally, I think it is a very poor policy because, if we recommend a failure, it would be up to us. We put it up to the counties themselves to hire their own men. We may send half a dozen men to be interviewed but it is up to the county to choose its own man. In passing, I wish to say that the greater interest you can get your county to take in the local unit the better it is going over.

I wish to illustrate how effectively these county health units have been selling themselves: In one of our counties they made a very unfortunate selection of a county health officer.

Late last summer, rumors began to come into the office that things were not running well. Investigation proved, that things in that county were in a bad way. Being new on the job, I said to myself, "There goes a county." Well, very much to our surprise that fellow's work in the first six months that he had been there had been of such quality that he had absolutely sold the idea to the Board of Supervisors, and the people of the County, even though he himself had proved to be a failure, were willing to shove him out and take on a new man, in order that the work might go on. To me, it was a very notable example, and it has given me a lot of encouragement for this type of work. Although that man was a failure in the end, still, the work that he had done in the first few months had sold itself to the county, and they were willing to go on with the work, in the face of what would seem to me to be a most discouraging start. As far as I know, each of these counties has a medical committee. The report I get from the county health officer is this, that the county health committees do not function. Committees are called together, and they do not come. I can readily understand that, because they are like most committees; it is very hard work to get a quorum. I happen to belong to several of these committees, and

I travel a good many miles, to find out when I get there that we do not have a quorum, and the only thing we can do is to have a meal and go home. As far as I know, in every county in Michigan where health departments are in operation, they have a committtee from the County Medical Society to work with.

Before closing, I wish to say that up to the present time we have not O.K.'d a county unit that showed a budget of less than $12,000. We have figured out that the minimum budget that the sparsely settled counties can get along with is at least $12,000, which gives them a county health officer, a couple of nurses, and nurses' expense, and in some instances a sanitary officer. Of that $12,000, the State has paid $3,000. The first year, the Rockefeller people give them $2,500, the second year $1,500, and the third year $750. The fourth year they drop out of the picture. Up to the present time we have had $5,000 a year from the United States Public Health Service that we have been able to distribute among the counties of the State.

Take Oakland County, they have a very large budget; Kent County has a budget considerably larger than the minimum; Wexford has a budget larger than the minimum. We expect a lot from Barry County. It looks to me,—I am not authorized to say this, and Dr. Pritchard has never told me so, but in the end, I thoroughly believe that Barry County will give us a super-county health department and the finest demonstration that has been given in the United States of what a good county health organization will do.

In closing, I wish to say this, that during the time I have been in the office in Lansing I have not had a single complaint from the medical profession as to the operation of any of these county health units.

I will be glad to answer any questions that you might have, in any way, in regard to the operation of this department.

Dr. Corbus (Chairman): I hope we can have a very free discussion of these things. There may be certain questions in your minds, as I have heard them expressed from time to time, which you would like to have the Health Commissioner answer. The best of all of these talks is the fact that we ourselves become educated. We get closer to a knowledge of what is going on

Dr. Slemons (State Health Commissioner): I will answer that question, if you wish.

Dr. Powers (Saginaw, Mich.): In Saginaw, a large percentage of the work is very satisfactory to the County Medical Society. I think the place where Saginaw falls down is in details, which should be correctible. One of the biggest causes of it amongst the doctors is the assigning to the county unit of the privilege or duty of O. K.'ing the bills that the doctors have for taking care of indigents in the county. I recognize that is a detail, but I think perhaps some of these details are at least worth while mentioning. Secondly, there has been in the past some friction between the county health units and the City Health Department. We have in Saginaw a full time health officer. I would like to ask Dr. Slemons, where those conditions occur, if it is not the understanding that the city functions as a unit in the health matter, and that the County Health Department does not have control of the City health matters, in those cities where they have a full time health department. And the third thing that has crept in, that creates some dissension, is the fact that the so-called Advisory Committee that is supposed to be from our Medical Society, was appointed by the Director of the health unit in Saginaw County, and was appointed apparently for political reasons, using men who live in outlying districts in the county, and only one or two men from the City of Saginaw, which has about 80 per cent of the doctors of the county.

Now, I recognize that all of these things I am bringing up are details in the operation of the thing, and are not a direct criticism of the system as a system. But, these things do creep in. And if we could have a Committee appointed by the Medical Society to act in supervisory capacity of a county health officer, I think it would do away with a certain amount of friction.

Another detail that causes some friction is the ambition of the nurses in diagnosing and making recommendations, which causes friction. Now, that, again, is a detail. But I know that we do get quite considerable friction over that.

And, lastly, the thing that causes friction is the freedom that the health unit uses in sending patients to Ann Arbor, without getting the doctor's opinion on the case until all of the arrangements are practically complete, and then some doctor who thinks it is an easy way to make $5.00 goes up and signs an order on Ann Arbor, so that certain very simple things such as the removal of tonsils and so forth have been known to be sent to Ann Arbor. That is nothing against the usefulness of Ann Arbor, but it does cause friction in our local society.

Dr. Corbus (Chairman): In the past fifteen years, no less than in the one hundred years preceding, the doctor shows evidence of being an individualist. Much of the difficulty, much of the friction, comes from that attitude of individualism on the one part, and ignorance on the other, and certain tactlessness perhaps of individuals who are operating these various systems. Perhaps the greatest number of criticisms which come to us, which come to the Secretary's office, when searched out to their source, and where they are true at all, come from an over-activity, you might call it, and over-enthusiasm and lack of tact on the part of the nurse. And, I presume that goes back to Dr. Slemons' statement that, after all, the success of these things is very much dependent upon the personnel. It is dependent also upon the control of those individuals who are employes and who are not medical men.

Will you now answer the questions, Dr. Slemons?

Dr. Slemons: Yes.

Dr. Corbus (Chairman): Perhaps you might also mention about the social worker and the visiting nurse.

Dr. Slemons: I intended to say, when I was on my feet the first time, that in order for a county to enjoy the subsidies spoken of, there are certain things we insist upon in their personnel. And one

county last Fall chose to do otherwise. Up to the present time, they have not had a nickel, and won't get it until they meet our requirements. There has been no argument back and forth. If a county wants to have our help, there are certain things they must do. Forty counties could organize this afternoon, and organize as they please, and we would have no supervision over them because it would be purely a local matter. But where they want our help, there are certain requirements they have to meet.

The Doctor said, "Where do we get people to take these courses?" Perhaps it is surprising to you gentlemen to know the number of available people, and I would say, the number of worthy people, who wish to take this course. We have on file in our office today, the names of at least half a dozen young men, outstanding young fellows, who are very anxious to go into public health work. They believe, as I do, that public health offers a very attractive future, and they are willing and very glad to start in this work. And I wish to state that your local health officer in Michigan is a different type than he was three or four years ago. At our winter conference, we had an entirely different group than we did five years ago; you would not recognize them as our old Michigan Public Health organization. It will be one of the regrets of the year when I, as I expect to have to do, sit down and write these young people that the course has been closed, that we have not the funds to go on with it, and that we will have to close the door of opportunity to them. We get people from all over. We have a man now from Seattle in our office taking this course. One of the internes at Flint wants to come here. There is a young chap just finishing an interneship in Chicago who wants to come. There are a couple of Dr. Bruce's boys who are figuring on coming in. We have six that I consider splendid candidates for future public health work.

Here is another thing we have been able to do: We have been able to pick out of this group in Michigan good prospects, and we have been able to give two or three fellowships a year, at either Harvard or Hopkins. I have now two young fellows, one in Harvard, and one in Hopkins; we have selected one of Dr. Carey's boys, and the first of September he goes into Hopkins for a year's training. We take the prize of the lot, and, where they want to go on, we give them that training. The field is getting attractive for a fine group of young men who are anxious to get into this line of work.

As to the health officer O.K.'ing the indigent bills, I do not think that that is the health officer's function. If the Board of Supervisors hires you or me, and puts a bunch of bills ahead of us and says, "Here, should these be paid?" I do not know what you are going to do. If you say, "I do not want these things, and it is none of my work," they might say, "If you do not want to do this, we will get somebody else who does." It is a detail that must be worked out between the physicians and the unit and the supervisors. As I said before, the results depend entirely upon the type of men that are put into the places. I do not believe it is the health officer's business to O.K. the doctor's bills.

The county unit has no more supervision over the city unit than it would have in the State of Ohio, as far as I know, and vice versa; they are separate political divisions, and I cannot see where the authority of the two should clash in any way. The county certainly hasn't any business in the city, and the city certainly hasn't any business in the county. It seems to me that somebody should tell somebody something, and do it in a hurry, because there is not any reason, and should not be any reason, for dispute, because the State law states specifically what your boundaries are, and I cannot see why either one of them should meddle in the other fellow's affairs.

The Advisory Committee: We tell these young men going out: Get an Advisory Committee from your County Medical Society. If I was going into Saginaw County, I would go to the president of the County Medical Society, and I would say, "You people elect or select for me an Advisory Medical Committee." That is our advice to them. As far as I know, it is what is being practiced in the organizations that we have anything to do with.

The control of the nurse depends entirely upon the health officer. I want to say to you that we find many of these older county nurses objecting to health officers and to the formation of county health units. That has crept up in a good many places. The nurse has been on the job there, and she sees at once that, if we get a county health officer in there she is going to lose some of her authority. She may not publicly oppose this thing, but we have found them in numerous counties objecting. That is, they would go to their supervisor that they stood pat with, and they would oppose this thing under cover. There have been some dismissals of nurses by health officers after they have been elected. Other supervisors have seen what was coming, and finally settled down to medical supervision. The control of the nurse is absolutely the health officer's business. What he should do, if the nurse meddles in something that is not her affair, is to tell her of her mistakes, and if they are repeated, she should be let out.

Now, in regard to the health units sending patients to Ann Arbor, that is welfare work, as far as I see it, and I cannot see why the county health officer is monkeying with welfare work in any way or shape. It is not our fault that the county health officer has anything to do with the care of your poor people, to send them to Ann Arbor or Jericho. That comes to a different committee, under entirely different supervision, and is handled in an entirely different way. There again, there has been an overlapping of authority, the assuming of a duty that is not theirs, or else somebody has pushed something onto somebody.

Dr. Corbus (Chairman): I am going to read this, and perhaps somebody would like to answer it. It is a type of criticism that we have coming in, and we do not know exactly what to do or to say, but they come to the Council. Here is one from Decatur, from Dr. Bock. He enclosed a clipping from Ann Arbor, Michigan. (Reading):

"Minus their tonsils, 26 pupils from Paw Paw started home to-day, following operations performed at the University Hospital here Saturday. The cost of the wholesale operations was charged to Van Buren County. The school nurse escorted a bus load of children here, after examination showed 116 of the children needed their tonsils removed. She plans to bring 25 more here shortly."

Here is the letter: "I enclose clipping from our local paper, which explains itself. We do this work here, and we wonder why this work should be carried to the University Hospital. If we cannot do this ordinary work for our people * * *

Dr. Slemons: Of course, that is not a County Health Department; that is the county nurse, with whom we have nothing to do.

Dr. Corbus (Chairman): Dr. Slemons says, as far as the county unit is concerned, that has nothing to do with it. In the letter he says that he understands there is a State law which provides for it. It is a rather difficult question.

Dr. Whittaker (Detroit): I read this from the Detroit News, last Thursday, written by Mrs. J. E. Leslie:

"Uncle Sam is quite concerned about the mothers in his kingdom. Any Detroit mother may have good care for whatever she can pay, or, free if she cannot pay at all, by applying to the Department of Health, 1300 Beaubien Street, phone Cadillac 2810."

That is one of the things that comes up.

Dr. Corbus: This talk is open for a very free discussion. We would like to hear from Dr. Ricker. Dr. Ricker, I thought you would like to talk on the Health Unit as it works in Wexford County.

Dr. Ricker (Cadillac): There are certain parts of this program that I would like to discuss. I had a talk with Dr. Slemons a few days ago in his office. We have a very successful Unit at Cadillac but there are always certain things that creep in. One of the things that I talked to Dr. Slemons about was the program of the late Dr. Kiefer. His object was to have a County Health Unit in every County in the State of Michigan, and that the County Health Unit be responsible to the State Health Department in every way. My experience with our County Health Unit has been that they are very much in touch with the State Board of Health. But there are other Health organizations working in our State which are not responsible to the State Board of Health. And with other parties working we hardly know where we are, so many other activities working we do not know where to place the responsibility. Again there is another point about the County Health Unit, as I have read the law, and as you read it over today, that is, that the intent of the County Health Unit was to do away with the Supervisors as health officers. In order to get the Health Unit into the County, you know it is necessary to get the good will of the Supervisors. The Supervisors are allowed to stand on the county health program and this is simply politics, which is very costly. I think that is a very essential point in regard to the relation of health in your county. If we are going to have a County Health Unit, with its responsibility to the State Board of Health, you must place the whole responsibility on your county health officer. As it is now, the two parties are in friction over certain things, in certain parts of the county, and it is not harmonious. Let us do away with politics and allow the Medical Society to direct the Health and Health Units of all Counties where they are working.

CHILDREN'S FUND OF MICHIGAN

Dr. Corbus (Chairman): We are tremendously interested, in the profession, in the things that the Children's Fund of Michigan is going, and is about to do. We would like to know as much of their plans as Dr. Carey sees fit to impart to us. We would like to know how we can be of help to the Foundation, if they desire it. We see great possibilities. Dr. Carey?

ADDRESS BY DR. BERNARD W. CAREY

Mr. President, and members of the Council: I am very happy to be here with you. I believe this sort of a conference is just exactly the sort of thing that spells the best future of public health. One would be dense indeed if he did not realize that every now and again situations arise in the projection of Public Health Programs which cause a great deal of friction. I think there is a very great obligation on the part of those of us who are trying to carry on this type of work. I think we are obligated to use all of the resources which are available to make our program a success. As I say, every now and again, we run into difficulties and misunderstandings. Indeed, we are somewhat like the good lady who saw a little youngster sitting on the curbstone weeping his eyes out. She stopped, patted him on the head, and said, "Sonny, what is the matter?" He replied, "My mother and daddy are having an awful fight." She said, "Why don't you run home? By the way, what is your father's name?" He said "That is what the fight is all about." (Laughter and applause.)

Sometimes I think our situation is almost comparable.

Mr. Chairman, I do not believe I am violating any confidence if I read you a letter written under date of March 22, 1930. This is offered as evidence of our belief in the necessity and efficiency of such a cooperative meeting as we are having today.

Dr. J. D. Brook, President,
State Medical Society,
Grandville, Michigan.

My dear Dr. Brook:

As you are aware, the Children's Fund of Michigan has created a Division of Child Health, with a rather extensive program of activity in that field. It seems desirable to us to have an advisory committee with whom Dr. Bernard W. Carey, the director of this division, may consult. I am instructed by the Board of Trustees to ask if you will be a member of this Committee.

Other members asked to be on this committee are as follows: Dr. Guy L. Kiefer, State Department of Health, Lansing; Dr. Henry F. Vaughan, Commissioner of Health, Detroit, Michigan; Mr. W. Pearce, State Superintendent of Public Instruction, Lansing, Michigan; Dr. P. J. O'Reilly, 4662 Grand River Avenue, Detroit; Dr. John Sundwall, Director of Hygiene and Public Health, University of Michigan, Ann Arbor, Michigan.

Sincerely yours,

W. J. NORTON, *Executive Secretary.*

We had one purpose in mind, which is typified by this meeting today. We wanted a representative from the State Society, to whom we could go and discuss our troubles, trials and tribulations. We haven't yet received a reply to that letter. Perhaps this is one of our difficulties. However, I am not going to preach to you.

Some two years ago, Senator Couzens came to the City of Detroit, and called together six men and said that he wanted to set aside some money that could be expended for the children of Michigan. In his own words, he said, "This ten million dollars is to be expended for the health, welfare, happiness and development of the children of Michigan, and elsewhere in the world, if you reach the point where you think you ought to go outside of Michigan." After

discussing the possible programs with Mr. Norton, who was the executive Vice-President and Secretary, we went to Lansing, to the State Health Department, and said to Dr. Kiefer, "We want from you the very best information you have as to how we can expend this money to achieve the purpose of the donor, as it relates to child health." From that conversation came about ten programs, eight of which I think we are carrying on.

The objective of our health program is to correlate the local resources which are available, for the betterment of public health, especially for mothers and children. So, in the Division of Child Health, I divided the program up into administration, nursing care (we have 32 counties with nurses in them today); a dental program of some 22 dentists, and 4 oral hygienists, as well as a summer dental program, operating in counties where there are not adequate dental services now available; and a health education program. We created a demonstration project in Menominee County, to show what was desirable from the standpoint of a Child Health Program. We hope other northern peninsula counties may be stimulated by this example to have similar programs.

By drawing a line westward from Bay City, you get into a cut-over, burnt-over territory, a territory where the tax valuation runs from about $1,700,000 in Roscommon County, to perhaps $10,000,000 in the more favored counties, and you find areas utterly lacking in medical service, unless you say that a doctor who resides forty miles away is available. You find counties without any dental service whatsoever, and, of course, no public health nursing service.

It seemed to those of us who were interested that maybe we would be best serving the purpose of the donor if we were to give these people a public health program which they could not possibly have for themselves. We hope that maybe in the years to come, conditions will have changed so that they can have something on their own resources. We have united these sixteen counties (indicating on map) into four consolidated health units. We have given them each a well trained health officer, recommended to us by the State Health Department. We have placed nurses in the counties and have given them a dentist. A sanitary officer completes the unit to take care of the sanitary problems. The law specifies how the county health unit shall be organized, as you have heard from Dr. Slemons. The Board of Supervisors of the County assembled, must elect three members of that Board, to serve on the Board of Health. So that, in these units it amounted to twelve members—twelve supervisors, serving as the Board of Health.

In addition, we asked each Board to have medical representation from the county on the Board of Health, and this has been done. Dentistry is represented; education is represented. The Board of Health, as so constituted by law, elects the health officer, and then, to make things doubly sure, the State Health Officer has made our men deputies of his department for the health service within that area.

In addition to the Board of Health, we have asked that a local committee be established. We want it for two purposes; one is in order that knowledge of the work may be disseminated more rapidly and further throughout the county, and second, that we may have the advantages of their knowledge of local conditions. We asked to have the Judge of Probate serve on this committee with a supervisor, superintendent of schools, a dentist, a medical man, and certain other important key people. In this way, we feel that we are safeguarding the combined interests of that community. Now, obviously, if a doctor does not go to the committee meetings, if he does not know what the program is all about, it seems to me he should be deprived more or less of his right to criticize, because if he goes and he gives the benefit of his advice to this committee, the nurses are not going to undertake that which is not for the best medical interest of that community. If, on the other hand, a proposal is made, and no medical man is there to give advice, I do not see why, if it seems wise to these good people, a program should not be undertaken. I am talking frankly and freely, because I think that is what you want. I am telling you what I think, and I am telling you, out of fifteen years experience, how some of our difficulties may be avoided.

We have two women physicians who go around holding classes of instruction for mothers. This is purely an educational program. We are trying to interest the mother in the growth and development of her chil-

dren. If there are any physical defects found through this or any of our programs, local facilities are usually available to take care of them. We refer them to the family physician. Last year, out of 150,000 children we handled, 25,000 were referred to their family doctor or family dentist. Of these, about 12 per cent actually had corrections made. Rightly used, it seems to me that the public health nurse and the health department can be a source of very great help to the medical men in the areas involved. We have a program in which we employ two ophthalmologists. Obviously, they need direction and assistance from the physicians. We operate mostly in counties that have no service of this sort. Obviously, we make mistakes. The only thing I can assure you of is that they are not intended to be made. In the County of Mecosta, where I thought we were to work largely in the outlying areas, I found that, through the local committee, the program had actually gotten under way the City of Big Rapids. The City of Big Rapids happens to have a very skillful ophthalmologist, Dr. McIntyre. He was very gracious; when we went to him and explained the situation, he said, "All right, go ahead." He said, "I think you will make mistakes, I think you will take care of people that you ought not to." But he said, "Obviously, you will take care of people who are in need of this source and who won't come to me." We went ahead. We were hardly started in the program before a case got into our clinic, and received a prescription for glasses—a case that had no right to our services—whose father owns two automobiles and tenement houses. Immediately, I telegraphed our nurse to visit Dr. McIntyre and present my apologies and to explain the situation. The doctor was very gracious. Of course, he did not like it; I did not like; but it was one of those things that will happen. Through our local committee, we are trying to avoid this situation as much as possible. We ask our committee to pass upon the indigency of people who are to receive the services, and then to limit ourselves as far as we can to their children.

We have built a modern clinic building for the children of the Northern Peninsula, which will serve, from our standpoint, a twofold purpose. We want to offer some expert service near at home to children who would ordinarily be sent through the Probate Court, to Ann Arbor; secondarily, to offer to the physicians of the Northern Peninsula a post-graduate institution, conducted by the post-graduate department of the University, which is entirely responsible for the medical practice. In truth, we are paying the bills, but through Dr. J. D. Bruce the post-graduate department of the University will guide the clinic.

The staff nurses made 18,000 home visits in the interest of mothers and children last year. About eleven thousand children were immunized with toxin-antitoxin, 70 per cent of these treatments were given by the local practicing physician. About 12,000 vaccinations against smallpox were made, with approximately $10,000 spent by local governments for a health program this year. It does appear that local people are interested in this health program. They are interested, for they are willing to pay in part.

Another type of program in which we are interested is, Child Guidance and Mental Hygiene. That is under the direction of Dr. Maude Watson. Next to Harper Hospital in Detroit, a Children's Center has been opened where children who are in need of mental hygiene will receive treatment, advice and direction. We hope to go into the schools to a greater extent than has been done, and take care of some of the children within the schools. We hope to educate the teachers to a better knowledge of and interest in child guidance here. We are also contributing to the establishment of two centers, one in Flint and one in Grand Rapids, in hopes of developing a modern, practical mental hygiene program.

We have entered the field of research to some extent. We have given $22,000, to see if we can find out, through Dr. Bunting, of the University Dental School, why teeth decay. We are giving $22,000 to the Yale Institute of Human Relations, to see if we can find out more why certain children behave as they do, to ascertain the relationship of environment and companionship, or the lack of recreation facilities of children who come before the Court.

We are trying to find out something more about orthodontia, something more about the development and growth of mouth, teeth and sinuses. This work is carried on by Dr. Lewis, an orthodontist here in Detroit.

We are giving $12,000 for the study of tuberculosis in certain children. This study

is carried on by Dr. Johnson, of the Ford Hospital, in conjunction with the St. Vincent De Paul Society. In the field of dependency, we have given $30,000 to the Michigan Children's Aid Society. We have given $50,000 this year to welfare organizations, for food and clothing for children suffering during this period of depression. We have given the Muskegon Probate Judge an appropriation of $7,500, to see if she can work out a placement home scheme for children that ordinarily would be sent to some institution for their care.

We have established a camp out here near Ann Arbor, for the colored children of Detroit, to give them a little vacation during the summer time. During that time we are going to see them, and, if we can, instill some health habits, and correct some of their dental defects and give them a health examination.

So, I might go on with the other things that we are doing. However, time does not permit. We come to the grand total of $1,166,000 which we have appropriated and expended for last year's work. This ten million dollars was given for a definite purpose. We are obligated to meet the desires of the donor.

In so far as I am concerned, I do hope that you people may see fit to appoint somebody, and I will extend an invitation to you, Mr. President, or any one that you may select, to joint with us in a committee, that we may not only safeguard the interest of the medical men of the state, but have as well, the best possible medical advice on our program.

If there are any questions that you folks may want to ask, I would be delighted to answer them, if I can.

I thank you. (Applause.)

Dr. Corbus (Chairman): We are so greatly appreciative to you, Dr. Carey, for this very fine talk. It is the sort of talk that the Executive Committee felt we would like to come up here to hear. We would like to have a member meet with your committee. We should be extremely happy to do it. And even this Council, who are supposed to be the representatives of some 3,500 men, are supposed to be more or less closely aware of the health activities which are going on, even this Council has not known what it is all about, I know. And if this Council has not known what it is all about, I can assure you that the rank and file of the profession have known even less.

So we are tremendously appreciative of this opportunity of learning something about it.

Now, this talk of Dr. Carey's is open for discussion. If you have any questions, I know Dr. Carey will be very glad to answer them.

Dr. R. C. Stone (Battle Creek): It has been a very rare privilege for me to hear Dr. Carey discuss this work of the Couzens Fund Foundation. As Dr. Corbus has said, those of us who have been on the Council and on the Executive Committee, while we have thought and felt that we knew something about it, yet we have not known entirely the program. We have been very sympathetic with those features of the program which we have had knowledge of. I am sure, if all of the medical men of Michigan could have heard Dr. Carey talk this afternoon as he has, that much of the antagonism, perhaps, if there is antagonism, or, at least, much of the friction which has been brought up from time to time, and the comments which have been not too good, would be overcome immediately by this discussion of his.

It certainly appears to me that, with the splendid work which the Couzens Foundation people are doing, and their objects in doing it, and their efforts and insistence upon having the coöperation of the Michigan State Medical Society, it is up to this Council and up to the members of the Society to get behind a program of this sort and coöperate with Dr. Carey and the rest of the people in this Foundation. It is a splendid work that they are doing, and I personally am very appreciative of it, and I hope that, as time goes on and the work progresses, all of the difficulties which have come up and which will come up, will be overcome, and that you, Dr. Carey, will have the medical profession of Michigan coöperating with you to the very limit. (Applause.)

Dr. Corbus: I hope there will be further discussion.

Dr. Carey: Mr. President, might I say this? I wish they would discuss it. I believe, honestly, with the exception of the instance of Dr. Fairbanks, and this instance of Dr. McIntyre, those are the only two instances I know of, of friction among the medical men and this program. Now, if there be friction, how can I correct it, how can I change a situation, if I do not know about it? After all, it has got to come to me before I can do anything about it, and I wish you would tell me about it. I tell you frankly, I cannot put on the best type of a Public Health Program unless the medical profession is behind me.

Dr. J. D. Bruce (Ann Arbor): There is very little I can add to what Doctor Carey has said in so far as the development of the Northern Michigan Children's Clinic is concerned. In its association with the Michigan State Medical Society and the University Medical School it is in conformity, we believe, with the principles which the Chairman enunciated upon the opening of this meeting today. My particular interest in it has been the opportunity it will afford for post-graduate education and the opportunity it will bring to our profession, permitting its members to be of greater usefulness in all of our northern Michigan communities. The plan in general is this: The Children's Fund of Michigan has erected a building at Marquette, equipped with laboratories, examination rooms, accommodations for twelve children, administration rooms, etc., and an amphitheatre for teaching purposes which will accommodate about seventy-five. The Foundation has given us a sum of money to employ a full-time pediatrician, and we have been very fortunate in securing an extremely well-trained man, who, I am sure, will be very satisfactory to the profession from a teaching standpoint and extremely helpful in the diagnosis and care of pediatric conditions. The plan is to hold, at regular intervals, clinics at Marquette and in the various centers of northern Michigan. There the children that come in will be investigated, diagnosed and, when of teach-

ing interest, will be used for demonstration purposes. Very little treatment will be given directly. Patients will be referred to the family physician, with recommendations regarding care. If that is not feasible, they may be kept for further observation or treatment at the Clinic, or, if facilities are not available in their home community or at the Clinic, they will be sent on to Ann Arbor, as is being done at present.

The patients who will be admitted will be those adjudged indigent by the local authorities, and, in addition to these, certain cases will be presented by the medical profession itself for diagnosis and other help. There will be no practice of medicine as we commonly understand it in this program. It is largely a diagnostic, consulting, and teaching operation, with treatment only as agreed upon by the local medical committee and the resident representing us. I might explain that in each of the centers the local medical society has named a committee whose duty it is to inform us how best we may serve each community, and to act as advisors of all problems arising through the operation of the clinical service. When cases are seen that present problems of such difficulty that it is judged that the local men cannot take care of them adequately these cases will be sent on to Ann Arbor or other centers. Orthopedic cases will be disposed of just as they are at the present time. Cases other than those in the orthopedic group will be sent back to their local doctor, and all of the treatment will be under the local physician except such cases as come in with the request that special examinations and special attention be given by the pediatrician in charge. At the present time the whole operation is in conjunction with and largely under the control of the local society. There will be no conflict with the present local arrangements, only enlarged opportunities.

In northern Michigan rather an unusual condition obtains. I recognized it to some extent when I drove through northern Michigan in a Cadillac. I recognized it doubly and trebly when I covered it this spring in a Chevrolet. After driving 267 miles one afternoon, after three o'clock, some of the fellows apologized for keeping me so long on my feet, and I told them they need not apologize at all on that score, because I was much more comfortable on my feet than I was sitting down. (Laughter.) But as a matter of fact, the Upper Peninsula is an empire in itself. It is a tremendous territory. From St. Ignace to Sault Ste. Marie is about 65 or 70 miles; from the Soo to Marquette it is 187 miles; from Marquette to Houghton is 120 miles; from Houghton to Ironwood is 135 or 140 miles; from Ironwood to Escanaba is about 200 miles; from Ironwood to Menominee is 260 miles. You can see the tremendous distance to be covered, so that instead of establishing one center in Marquette and hoping to take care of all the people of the class contemplated, we are planning the establishment of sub-centers in the towns I have just enumerated.

Now there is a certain situation in which we can be very helpful—helpful to the State and helpful to the people. At the present time a considerable number of children as well as adults are being sent to Ann Arbor for treatment. Of these cases quite a number are relatively easy to deal with and oftentimes are not particularly valuable from the teaching standpoint. Such cases are coming three or four hundred miles not infrequently, at an unwarranted expense for transportation. With the establishment of these centers, large numbers of patients can be taken care of by the local practitioner, and as time goes on, in some of these counties, as is under way already, I am hoping that remuneration will be made to men who can take care of conditions that arise in the ordinary practice of medicine and surgery, rather than sending such cases the tremendous distance that is now being done. There will still be plenty who should go to Ann Arbor to benefit through the opportunities which the State has generously supplied in buildings, equipment, and personnel. In the program contemplated large numbers of cases will be brought to light, needing special care, and of such extreme interest for teaching purposes that they should go to Ann Arbor. Through this cooperative movement, we can save the State a very considerable amount of money and help Mr. Couzens in his laudable desire to bring aid and comfort and opportunity to many children otherwise unprovided for.

In his introductory remarks Doctor Corbus has indicated how importantly the Michigan State Medical Society regards our program of post-graduate education. He has also called attention to the increasing number of agencies seeking responsibilities in medical, social, and economic problems in which the medical profession has always figured prominently. If I correctly interpret his remarks, he feels, as I believe we all do, that we must give much careful and sympathetic consideration to all proposals offering seeming opportunities for human betterment. Our knowledge of medical and social needs places us in a very strong position and one of great responsibility. The wisdom with which we meet these problems will be, no doubt, a factor in deciding questions of much importance to our profession and to those we serve. Doctor Carey has told you that the professional part of the Children's Fund program in northern Michigan is in our hands. This association gives us opportunities we have long desired in the way of post-graduate teaching in northern Michigan and in addition to this it would seem to widen greatly the opportunity for service which every man in practice should be looking for.

Dr. Ricker: Dr. Carey, at the time of my previous statement, I did not realize the embarrassing position I would be placed in after hearing your report.

As Councilor, I receive many complaints from the large area which my territory covers, some of which should be given worthy consideration. I feel the Michigan State Medical Society should become closely affiliated with your Fund and know of its workings.

My first experience was a personal one, not being familiar with the fact that the Couzens Fund was in Osceola County. (At this point I wish to explain that I had given several years of my life to eye, ear, nose and throat work, and felt confident to do refractions, but owing to the small amount of revenue from this source, it was necessary that I do other things to make a living.) I had a case of osteomyelitis which had been coming to my office for treatment. The family was fairly well to do and had always paid their bills although not as punctual at all times as I would have liked. On this occasion which I wish to refer to, the father and three children came to my office. During the course of the treatment for osteomyelitis, the father asked me if I was able to fit glasses. I said I was. He told me that the two children had been told to go to Reed City to consult your doctor on this particular Saturday, but inasmuch as they were coming to Cadillac, he brought them to see if I said they needed glasses. I refracted these children, both of them needing glasses.

The second experience was a patient who lived in Lake County who was on the way to Marion, some twenty miles beyond Cadillac, and being a rather bad day to travel, the mother brought the child to me and asked me to see if it needed glasses. I re-

ported that it did. She said that they had been told by the nurse that they must go to Marion to see the physician for the Couzens Fund who was to be there on that particular day. I fitted this child with glasses, which they paid for, and also examined the mother as she also needed medical attention. In this case the doctor for the Couzens Fund was not only taking the child away from the general practitioner who was able to do refractions, but was also keeping the mother from the advice of her physician. This I attribute to no fault of Dr. Carey's. It was simply a case of an over-zealous nurse who wished to accomplish some of the things which she was advised should come under her program.

I was very glad to hear Dr. Slemons of the State Board of Health say that the County Health Unit has nothing to do with the welfare work. That is not their position. One of the biggest bugbears we have had this year is the county health agent dealing with welfare work. It has taken away the patient that is able to pay who might have whooping cough, chicken pox, or something of the kind and they are holding them up, taking the family and making the health officer the advisor from that time on. I have had three young men with me in the last four or five years and they are the ones who are asking, "Where are we going to get off at? Where are we going to get our practice? What have we got left to work on?" We who have been in practice for years are assured of a living because we have an established practice. There is a point about this that should be watched to see that it is run successfully in order that the younger men may come into the northern part of the State. They do not have any trouble in getting them to come to the cities because there are so many different lines there for them to deal with. But we have very little to offer in the rural communities after the County Health Unit and welfare workers have sorted out their patients. I assure Dr. Carey that I have enjoyed his report and am simply giving my own personal experience in these things in which we are vitally interested.

Dr. E. J. O'Brien (Detroit): I want to emphasize the great value of such organizations as the Couzens Fund. I think the question of that case of osteomyelitis brings up a point that medical men very often forget. That case, while it was under the observation of Dr. Ricker, at the same time there were a couple of children who needed refraction, and Dr. Ricker did not know about it. It took the Couzens Fund to find out that they had to bring the cases to Dr. Ricker's attention. I think there is apt to be a slip-up quite often in these things, when somebody should aim by it and he does not. But, on the whole, I think well of the movement which takes up these things. That certainly must not be construed as a criticism of Dr. Ricker. He could not get around to the number of families to pick out everybody who might need something. An organization of this sort can. If it is properly managed, and especially after this splendid suggestion of Dr. Carey, of working with the medical profession and the medical society, I think we can all get in accord, and it will work out all right.

Dr. Paul R. Urmston (Bay City, Mich.): I represent, as councillor, most of the counties in blue up there (indicating on map), and I will say now that I have not heard a complaint, as councillor from that district comprising the ten counties north of Bay City, from the central portion of the state to Lake Huron. I was certainly interested today to know how the Couzens Fund is working up there, and I will be more interested now to make a survey of those counties, to see how they are working. The only way we have any contact with the Couzens Fund in Bay County is in regard to the dental clinic. I have asked a number of dentists, and they have no complaint about the way it is working. I would be interested to know if Dr. Carey, or somebody connected with the fund, would be available as a speaker before the county societies, and in that way we could present this fund to the individual doctors, so that they would have a better understanding. I am sure, if somebody from that department was available, that all of the counties in the state would be glad to have a speaker from that department, to interest the doctors and also to educate the supervisors and your county probate judge.

I think all of the criticism so far that there has been of this fund, or any other fund, and through our county itself, which has been going on for years, is through our probate judge and supervisors. There is a law in the state that we have nothing to say about, and in our own county at the present time the supervisors and the probate judge are restricting the number of cases sent to Ann Arbor. So they made arrangements with the local doctors to carry on that work, and relieve the county of the burden and expense of sending them down there. We are not so far away; but I can see where those in the Upper Peninsula could be done cheaper up there, than to be sent to Ann Arbor. If the supervisors and the county probate judge were educated on that point, we hope the doctors would be satisfied, and we would not have any objection to any of these funds.

Dr. Corbus (Chairman): I regret to have to close the discussion. I will call on Dr. Carey, if there is anything further that he would like to say.

Dr. Carey: First of all, I want to offer my apology for my nurse in your county. I did not know of that instance. However, I hope that you will be compensated in part for the loss of those people. It may be that our scheme is wrong. If the local people do not know, if the judge of probate, the supervisors and the local doctors, and the key lay people, and the superintendent of schools, if they do not know who is poor in the community, how in the world are we going to know? We ask them who shall receive this treatment. I know well enough that I am going to slip, but I want you to know that it is not intentional, and we are doing everything we can to prevent it.

Relative to a county meeting, we would be glad to go. If I could come myself, I would be very happy to go; and if not, I can arrange for someone else to go to the meetings, certainly. (Applause.)

THE KELLOGG FOUNDATION

Dr. Corbus (Chairman): A matter of regret that I have to announce is that Dr. Pritchard could not come, owing to the sudden death of his associate. President Stone has a letter from him, and perhaps he will feel that he is able to comment to some extent on the Kellogg Foundation. President Stone.

Dr. R. C. Stone: Dr. Pritchard came to see me Sunday noon, and wished me to extend to you his very deep and sincere regret that he was unable to be here today—his absence being caused, as Dr. Corbus has said, by the very untimely death of his associate, Dr. Selmon. Dr. Pritchard in his letter asked me, if there were any questions

that came up that I could answer about the Kellogg Foundation, to do so. By the way, he said I should represent him here. I must admit, though, even though I have had several discussions with Dr. Pritchard regarding the Kellogg Foundation, that I am very much in the dark as to what their ultimate purposes will be. Their work thus far has been largely, almost entirely, confined to school work, and building up adequate schools with definite health programs, in the rural communities. They have built a school at Gull Lake, in Kalamazoo County—with the help of the supervisors; they have not done it all. They have installed in the school examination rooms, record rooms, and social service, and have given these children complete examinations, including a complete physical examination, and including an X-ray of their chests. Their work has been entirely—Dr. Pritchard emphasized it to me, that their work will always be only in cooperation with the medical profession. In counties where they are working now, he is coöperating, and the county societies are cooperating with them. He has told me many times that they will not consider operations in any county in which the county societies and local doctors will not coöperate. They are taking the same position that Dr. Carey has taken in regard to the Couzens Fund. They do not wish to take away the work of the doctor. They want to educate the public upon the need of a health program, and carry a health program which will be constructive. They also want to help the doctor by giving him a certain type, if you may call it that, of postgraduate training in health problems.

How far reaching the work of the Kellogg Foundation will be remains to be seen, but I am positive I can say this as quoting Dr. Pritchard, that whatever the wishes of the medical men of Michigan are, in cooperating with them, that they will be very happy to coöperate in so far as their means and their program will allow.

I think that is about all, Mr. Chairman. I am very sorry Dr. Pritchard could not be here, because he could go on and tell you many things that I would not feel at liberty to discuss. But I am sure on another occasion, if it is possible, he will be very happy to talk.

ADDRESS BY DR. STUART PRITCHARD

Medical Director, W. K. Kellogg Foundation
BATTLE CREEK, MICHIGAN

The purposes of the W. K. Kellogg Foundation are to directly or indirectly become actively engaged in child welfare; to consider ways and means of helping in matters of child health, child education, child recreation, child character building, and to influence school children so that health education may, in turn, penetrate the school, the home, and the community.

At the present time our chief interest lies in the rural school problem. We wish to encourage the consolidation of small country school districts, and to establish a central school, which includes all classes and grades up to university entrance, where vocational training and health courses may be added to the curriculum, so that the rural school children may have an equal, if not a greater opportunity, when compared with that of urban pupils.

The Foundation supplies the health supervision of the consolidated school for an indefinite period of years with the hope that in the years to come the community will see fit to continue most, if not all, of these activities, so that the work of the Foundation may be transferred to some new field to "further carry on."

Since the health supervision part of the proposed demonstration concerns the members of the local medical profession and since much of the success of the project depends upon their hearty support, therefore, it would seem desirable to set forth a statement to serve as a basis for cooperation between the demonstration staff and the local physician.

It may be stated at the outset that the Foundation has no thought of coming in as a competitor in the field of curative medicine. Its chief concern is in the prevention of illness and the maintenance of a high health standard.

The procedure to be followed will, it is believed, conserve and protect the interests of the private practitioner. It is anticipated that such activities will stimulate the growth of a new relationship between physician and patient whereby both will profit far more than in the past from reliable medical information and high class medical service

aimed at keeping all members of the family in health.

The work of the W. K. Kellogg Foundation will not only be carried on in close cooperation with the local medical profession, but as far as possible the services of local physicians will be utilized.

The services of the staff will, for the most part, be concerned with the following:

(a) Health examinations of school children carried out at the schools.

(b) Health counseling and follow-up work by nurses to bring about correction of health defects by the family physician.

(c) Assisting public health officers and local physicians in carrying out the program of immunization against the contagious diseases.

(d) Health examinations and health counsel for the preschool children carried out in health supervision centers.

(e) Ill children presenting themselves at these health supervision centers would be referred to the family physician.

(f) In referring an individual to a physician, in case he has no family physician, he would be given a list of physicians approved by the County Medical Society.

(g) Demonstration staff nurses visiting the homes would, in case they rendered any nursing service, follow the instructions of the physician in charge of the case and be careful in expressing medical opinions. The local physicians would be used as much as possible.

(h) In the case of indigents, occasions may arise in which medical and nursing care would be given by the members of the Demonstration Staff, but only after investigation, advice, and consent of the County Medical Society.

During the entire health supervision program the school boards, the children, parents, and the community are constantly reminded of the importance of the family physician. He is made a part of all programs and is paid for the work he does. The Foundation makes it a rule that no territory is entered without the consent, approval, and promised coöperation of the local medical society, and all matters of procedure are discussed with its executives. In this way the local physician is an active part in the program, his wishes are considered, and it is the desire of all concerned to elevate his standing in the district and to enlighten the citizens more fully of the value of the doctor to the province or state, the community, and to the individual.

TUBERCULOSIS ASSOCIATION

Dr. Corbus (Chairman): Mr. Werle?

Mr. Werle (Secretary, Michigan Tuberculosis Association, Lansing, Michigan): I do not know that there is anything to be added by a lay worker, except perhaps the assurance that after nearly a quarter of a century of work in this field, on the fringe of medicine, as a social worker, I have learned that the leading social working agency is the medical profession. It antedates by centuries the specialist who calls himself a social worker. Anything we do in tuberculosis work today has behind it the inspiration and the vision of medical men. Many years ago it was made very clear to me in my training that the tuberculosis problem can never be solved by the social worker or the social working profession. It can be solved only by the medical men. We in social work cannot go any further than the medical men will let us go. Now then, if occasionally workers in medical social service makes mistakes, or overstep, or are overzealous, it is probably because of a buoyant spirit more to be directed and commended than condemned. It has been made clear, I think to a measure, in this resolution, and I think it is the contention of those of us who are not trained actually as medical men, but who work in this health field, that the next step ahead in tuberculosis must be in arousing a closer interest and more active and intelligent understanding of the handling of the tuberculosis case by the man in general medicine.

Perhaps it would be of some interest to the men here to hear a little something of the educational activities of the Michigan Tuberculosis Association, so that you might see why we have come to this particular conclusion again now, as we have often before. When the tuberculosis movement was organized, it was organized by medical men, and it has always been under the complete control of medical men. There have been times when laymen have held high executive offices, but there have always been in the Michigan Tuberculosis Association a preponderance of medical opinion and medical

men in the handling of its affairs. These medical men, who do work in this field, pointed out to us that the tuberculosis campaign divides itself easily and naturally into two heads. One is immediate combat with the disease itself wherever it is apparent; and that, of course, is the medical side of the campaign. Then there is the other side, which deals with the disease where it has not yet manifested itself, or before it should manifest itself; in other words, education.

As you probably know, the tuberculosis movement brought into existence various types of health education endeavor, because it was found that the ethics of the medical profession would not permit an aggressive attack on this sort of hidden disease.

In an educational campaign against tuberculosis, the tuberculosis association has two purposes in view. One is the education of individual children in personal hygiene, with the ultimate goal of an understanding of community hygiene, arousing a demand for an understanding and appreciation of scientific medicine. I think, perhaps, on the side, I might say that for years and years there has been no other agency so aggressively opposed to medical quackery as the voluntary health agency. The second point is the education of adults for an immediate effect in community consciousness in health. The immediate effect of that campaign with adults is the provision of money for public health purposes out of public funds. For example, you might have noticed this session of the Legislature passed bills which make available out of state money about $4,000,000 for the next biennium for control of human tuberculosis. That is one result of the steady educational pull of the tuberculosis association. Another reason for educational work is that it was felt to be useless to undertake any purely medical campaign because of the peculiarly chronic and hidden nature of the disease and the restrictions of medical ethics.

The educational campaign is making its headway. It has brought to the public a knowledge of the need for scientific medical care, as I suppose no other campaign has done. It has gradually been hammering home to the people that they must go to their doctors early. Then, it has brought to the doctors an appreciation of the fact that the medical profession must prepare itself to make a diagnosis of tuberculosis. One other factor which is of very great importance in considering the tuberculosis problem is this: Unlike acute diseases, in tuberculosis one cannot easily determine the indigency of an individual. A family which has a household, and which is able to pay its bills, ordinarily would not be indigent in a case of diphtheria or whooping cough, for instance; but might be found indigent when the matter of handling a case of tuberculosis came up, because of the chronic nature of the disease, and particularly because of the need of a long period of recovery after actual hospital care and treatment. Therefore we find that the social worker more than ever must lean upon the opinion and generous point of view of the medical men, in determining what shall be done with a patient.

These are some of the problems which the Tuberculosis Association is engaged upon—the matter of health education, not specifically for tuberculosis, but very broadly, has engaged it for years in the belief that with an awakened public consciousness of what scientific medicine is, and of the need for adequate scientific control of disease, there would come to the medical profession the opportunity to find and to control early, the as yet unrevealed and unsuspected cases of tuberculosis. Up to date, and all around us, then, is the question of closer and closer control and coöperation with organized medical forces. This resolution which you have before you is merely another expression of a point of view which we never fail to keep in mind, namely, that the tuberculosis question, the solving of the problem of tuberculosis, the handling of patients, is always found at the door of the general practitioner of medicine. We have been endeavoring merely to help bring that job out to where he can handle it more efficiently. (Applause.)

Dr. Corbus (Chairman): Will Dr. Shepard or Mr. Werle speak on this?

Dr. B. A. Shepard (Kalamazoo, Mich.): Mr. Chairman, members of the Council, and guests: Not being a speech-maker, I wondered why you should send me that letter to come down to Detroit to talk to you. Then it came to me that possibly there was an explanation similar to what I had the other night, knowing that the Tigers were playing here; they asked me to speak a few words, asked me how long I would take, and

I said five minutes, and they said, "Can't you take ten, we want to empty the hall for dancing?" (Laughter and applause.)

Perhaps you can get out to see the game yet, although you are a little late.

I cannot reminisce with our president for the last one hundred years of our society. We have only been going in Michigan since 1908. The Michigan Tuberculosis Association was organized in 1908, about that time. I believe I have the date correct. That movement was started largely by the physicians, and some of our prominent citizens of the State. But, the underlying spirit was that of the physicians. The work went on. You will remember, the first office was in the office of Dr. Warthin, of Ann Arbor. The work went on and grew, and people became interested. Lay people became greatly interested in it, and got into the work heavily; and the work has grown now to where it reaches out and has its fingers reaching out into various kinds of work, educational largely, and has been doing clinical work. As the lay people have been coming into the work, it seems as though they have outnumbered somewhat the physicians or medical interests; and, they are interested in the medical side of it.

The tuberculosis problem will never be settled without the general man. Specialists cannot do it. The man who has come to limit his work to tuberculosis cannot settle the problem. It has got to be the general man, the man out in the field. The specialists are only getting the cases that go to the clinics, and the ones they happen to stumble onto or that are referred to them. We have held clinics throughout the State of Michigan more or less efficiently, and try to do good work. But, we have come to believe that is not the best way of functioning. We have felt that we are not quite as efficient as we ought to be. And, last year the Board of Trustees, or the executive committee for the Board of Trustees, decided to appoint a committee of representative medical men of the State, to confer and see in what way the Association could do better work. That committee met. That committee was composed of representative men of the various institutions and parts of Michigan. The outcome was the recommendation read by your chairman.

I do not know that I could say a whole lot more. A few years ago we had this same feeling, about two or three years ago, and it was suggested to this organization that we get together on some plan of work. But, for some reason, or for various reasons, we did not get it started to a very large extent. A little postgraduate work was done, and it went over in good shape, but to a limited extent. The men were intensely interested. Now, our idea is that we should help the general man to help himself, or have the general man to help the community, by getting him interested, and by getting him in closer touch with tuberculosis. In doing that, we hope we might take the postgraduate work to him. Instead of going into the community, for an occasional examination and diagnosis, or mis-diagnosis—and I do not mean any reflection on any of your members; but in fifteen minutes, a man cannot be very sure of himself; but, instead of going in and diagnosing fifteen or twenty cases, if we can get a man interested, in the community, who lives there, and is treating his cases, we have done much more for the cases of tuberculosis than we do by diagnosing a few of his cases.

Now, it is our aim and our hope that we may have your coöperation, and that we may work with this organization, the State Medical Society, and the other organizations which have been mentioned, along this line. We believe, if we can put over something of this kind, it will be bigger and better than anything that has been put over in any of the other states.

I have talked to some of the men from the various organizations, and I have yet to find anyone who does not see the opportunity of a big piece of work for tuberculosis. I have talked to organizations, and those I have talked with have been for it strong. The medical profession are coming now to do more work along health education lines. And, this is the opportunity. One of your organizations here in the state already has used our organization to some extent, that is, some of our personnel, to put over a health program along that line; and we hope that we may work with you, with the state medical society, in carrying to the doctors and to the communities a great deal of work, through our university, that will set Michigan ahead in solving the tuberculosis problem. I thank you. (Applause.)

STATE SANATORIUM COMMISSION

Dr. Corbus (Chairman): I have a special topic for Dr. O'Brien, "The Michigan State Sanitaria." I am going to ask him to speak now and to combine whatever comment he has to make with this subject.

ADDRESS BY DR. E. J. O'BRIEN (DETROIT)

I am very glad that Dr. Corbus has suggested an outline for my talk because there is not much to say about the Sanatorium Commission. The Sanatorium Commission fell heir to a cheap boarding house at Howell a few years ago and this has been going through a period of transition since.

We believed and still believe that a sanatorium should be a place for the care and cure of the tuberculous sick and not as a haven of rest for the indigent, chronic sufferer. To accomplish this end, we have tried as much as possible to have admitted to the hospital only those patients for whom something could be done. In other words, those patients in whom the diagnosis of tuberculosis was made early and sanatorium care was possible while their disease was still minimal in extent. We soon found that we were to run into many difficulties in carrying out this scheme and that even though, as Mr. Werle has told you, extensive campaigns were carried on to get patients to the doctor early for an examination, many of these patients were incorrectly diagnosed or, if diagnosed, were left on indefinite care and not sent to the sanatorium until the disease had progressed so far that treatment became impossible.

I would like to correct Dr. Werle on one point that he made. Tuberculosis is not a chronic disease. It is a very acute disease and must be treated very actively. Dr. Werle and I were both present at the meeting of the National Tuberculosis Association at Syracuse last week, and papers read there showed very conclusively that tuberculosis comes on very rapidly and cavities, when they exist, come on early after the onset, many cavities forming as early as one week after the initial symptom, and that most cavities will appear within six months after the onset. Therefore, the treatment of tuberculosis must be based upon that knowledge.

I made a statement at the National Tuberculosis Association meeting last week which I would like to make again, that tuberculosis is considered a chronic disease and becomes a chronic disease merely because of the lethargy and apathy of the medical profession regarding it, and I do not qualify that.

The whole picture of tuberculosis has changed very materially in the last few years. While it used to be considered a disease of adult life, we know now that in most cases the first infection takes place during childhood and that adult tuberculosis is usually a reactivation of this early infection. With our present knowledge, there is no need for tuberculosis being the chief cause of death in this country today. If sufficient hospital beds were available and a proper check-up of all school children and the contacts from which their tuberculous infection originated were made, and early and active treatment of all these patients and other patients afflicted with tuberculosis were carried out, the disease, if not entirely eradicated, would cease to be a menace within twenty-five years.

At the Howell Sanatorium, we are having a great deal of trouble because we have only a few hundred beds and there are double or treble that amount of patients who need hospitalization. Instead of our having a proper selection of cases, the institution has a large number of old chronic, hopeless cases.

It seems very difficult at times to make people understand why discrimination must be used in this selection. If only five hundred beds are available, however, and there are a thousand patients that seek admission, five hundred of whom have minimal disease that can easily be cured and the other five hundred are hopeless chronics, it seems clear that the curable group should be given first choice. If we reversed the procedure and hospitalized the five hundred chronics, we could do nothing for them, and while they were occupying the beds the five hundred who might have been cured drift into a hopeless condition and it becomes a vicious circle. It would be nice, of course, if we had beds enough to take care of both groups but we must make a choice as there is just as much danger of infection to others from early acute cases as in the old chronic ones if they are not hospitalized, so we feel that our course is clear.

About twenty per cent of the patients admitted to Howell, sent there by doctors throughout the state, have no tuberculosis at all. Unfortunately, a proper diagnosis of

tuberculosis and the extent of the disease can not be made with a stethoscope. It can not be done by our most efficient experts.

Cavities are silent in a relatively large percentage of cases and râles are present in old healed disease, as well as in the acute. The doctors can not be blamed, therefore, who live in communities where an X-ray is not available because it is only by the use of the X-ray that a proper understanding of the extent of the disease can be determined. There is a territory north of Bay City where no X-ray machine is available. The Sanatorium Commission felt that if a mobile X-ray unit could be made available and sent throughout the state, especially in those areas in which it was needed, much could be done in getting the proper cases to our sanatorium.

Dr. Shepard has told you that tuberculosis can not be conquered by the specialist alone but that the general practitioner's help must be enlisted. In order to do this a campaign of education must be carried on. Dr. Bruce is on the right track and is trying, as much as possible, to hold post-graduate courses to give these men an opportunity to become more familiar with this disease.

It was our thought that possibly these mobile units might be used in various communities as the basis of a clinic to which the rural men might come and check up their physical findings with the X-ray, etc. It did not seem advisable that we, as a commission, should start out by ourselves and send this unit out from the institution. It was thought best to have its activities controlled by the Michigan State Medical Society, Michigan State Board of Health and the Michigan Tuberculosis Association and to work in conjunction with the Couzens and Kellogg Funds, so that a more unified effort could be obtained. We held a meeting at Lansing recently with representatives of these organizations and it was agreed that, if this mobile unit could be obtained, it would be placed at the disposal of the State Health Commissioner, who would in turn use it as I have just suggested. I should be very glad if, from this representative meeting, we could get other ideas which would benefit us and I welcome your comments.

At the recent session of the legislature, the malt tax was passed which will give us something like two million dollars for the erection of a new hospital in the northern part of the state, as well as for other tuberculosis work. The new hospital will be under the supervision of the State Sanatorium Commission. We hope we shall be able, there as at Howell, to make a proper selection of cases so that the best results from our limited number of beds may be accomplished.

The treatment of pulmonary tuberculosis, together with bed rest, is surgical. The old idea of living in shacks and trusting in God and fresh air is past. Patients must be treated in a well equipped hospital with a staff that understands tuberculosis and its treatment. We must all work together. It will be useless for Mr. Werle and the State Tuberculosis Association to carry on their active campaign for the enlightenment of the public, urging them to go frequently for examination, if the profession is not properly equipped to diagnose and recommend the proper treatment for these patients when they come to them.

Dr. Corbus: It is always a difficult thing to say who shall or who shall not receive free service. From experience over many years, I am of the opinion that Socrates and the Seven Wise Men would fail to come to any definite conclusion. (Laughter and applause.)

Now, as far as our order of business is concerned, we are through. This is one of the most valuable meetings that I have ever had the pleasure of presiding over. It seems to me, to bring the profession of Michigan, its Council, into contact with you men who are interested in the social actvities, and to get on a common ground, is the most important thing that we can do, as a Medical Society.

I am going to adjourn this meeting in fifteen minutes anyway, or before; but there is going to be an opportunity to bring up anything that you have in mind at this time. You know that there is an executive session of the Council. I do not want to stop anything that you are going to say, but I call your attention to the fact that there will be an executive session of the Council at 6:30 o'clock.

Dr. Powers (Saginaw): This is just some information I want to pass on to Dr. Shepard and Dr. Werle. I hate to pose as coming from a Bolshevik section, but at the last meeting of the Saginaw County Medical Society there was a very hot discussion about a recent clinic held in Saginaw, and the cause of the discussion was entirely due to the fact that in no way were the Doctors consulted as to the advisability of holding that meeting, or the fact that it was to be held; and the first information that we have ever had on a tuberculosis clinic being held in Saginaw was from the papers, according to the discussion as given at this Society. There was a very hot resolution that started, but fortunately it was not passed, which would have been rather condemning the Tuberculosis Society and their work.

Now, that is a very unfortunate situation, and I just simply mention it happening at the last Saginaw County Medical Society meeting.

Dr. Shepard (Kalamazoo): May I say that was not put on by the State Tuberculosis Society. That

was a local affair, by your own people, put on by your own people, as I understand it. At least, the State Society did not put it on. We have not put on a clinic this year. We are waiting on this proposition. We want to work with you, and through the profession, and through the Medical Association. We want the doctors to do it for themselves. That is what we are trying to get at. The very purpose is to work with the medical societies, and to have the doctors have these clinics as they want them.

Dr. Powers (Saginaw): It was put on under the auspices of the Saginaw County Tuberculosis Society, which I understand is a branch of the State Society. So that we, as a medical society, have to trace the blame directly to the State Society when one of their offspring does it.

Dr. Corbus (Chairman): This group would like to hear from the Wayne County Medical Society, the President.

Dr. J. Milton Robb (Detroit): You might call on me a month from now, and in another month I would not be President. I would rather be right than be President. (Laughter and applause.)

I am sorry I was not here during the majority of the afternoon. I do not know any of the problems that you have discussed. As far as I am personally concerned, I only have this one feeling, that the public hygiene gospel should be presented mostly by the men in medicine, providing it is going to stay as a permanent factor in the state. I see no way that a continuous service is going to be maintained. And I think that the feeling of those organizations who are coming in to do the work is that they are laying the foundation for the future, so that the man in medicine is going to be sufficiently trained, so that after they have withdrawn then he will continue; the medical men will continue, with what basic education they have obtained or gotten from this effort, to care for these people in the state. I cannot see, as far as I know, any objection to any of the efforts that I know of. I have this one feeling always, that whatever effort there is developed in the way of teaching, the post-graduate effort, rather than any effort to do otherwise, is found to run a state into a good deal of trouble. If you destroy the individualism of the people of the state, you have destroyed the state. And I know that those who are behind these funds must know better than we do that that is the basic principle from which they cannot deviate. I am not informed about all of the particulars at all. I wish I could have heard Dr. Carey discuss his problems. And I know many of the problems that Dr. O'Brien spoke of. I know that they will be conducted in a very definite and logical way.

It was interesting to me to find out a short time ago that the state was in debt to the extent of $800,000 in the county units, for tuberculosis work. I wondered just when and how this is going to be cured and handled, because, in the long run, the people of the state have got to pay for it, and we are the people of the state. It was a surprise to me to find out that that was true. If there is any way that the physicians, in handling this question, in any possible way through education, and through post-graduate effort, learn to handle these things at home, so that the expenditure is not increased and placed on a state that is already burdened, it will be a wonderful thing for the state. We here in the city are in the throes of a financial disturbance that I do not know how we are going to get out of. I wonder, too, if, in time, the individual can again accept the responsibility which has been so regularly accepted by the state itself. (Applause.)

Dr. Whittaker (Detroit): I want to say, in the absence of Dr. Sundwall, Chairman of the Legislative Committee, who had to be away today, that I was very much interested in Dr. Slemons' remarks, and also the remarks of Dr. Carey, and Dr. Stone. I want to say, in regard to the money which was set aside for the state to back up the work of these two men, I feel that our Legislative Committee this year was able to lend quite a tremendous influence in bringing both of these bills through the legislature. I am sure we had to have the help of these men in the work.

In going around the state and talking to the various County Societies, we cannot disregard the fact that there is a tremendous amount of unrest among the profession. As I have pointed out before, there are nineteen agencies operating in the State of Michigan, which are helping the people of the state, in addition to the efforts of the medical profession. It is undoubtedly due to the activities of some of these groups that the doctors are in such a state of unrest. I do not think these problems can be solved at a short meeting like this here this afternoon. I would like to bring to the attention of the Council that I hope that some thorough study will be made of all of the agencies that are being carried on in the state.

Dr. Kiefer was a very good friend of mine, and I had a great deal of regard for his judgment, and I know that this development of the County Health Unit was one of his pet projects. At the time he proposed the County Health Units, the Wayne County Medical Society went on record as being opposed to such a plan. We went on record in that way because of two things, because of these things, because in 1915 there was a law passed which gave the University of Michigan the right to establish a unit in each county in the state to practice medicine. We felt, with the development, in 1927 and 1928, when the County Health Unit went into effect, by combining the two laws it would be easy to step into the situation where the University of Michigan could carry on the practice in the entire state. I would like to see our Health Department not go so much into detail for the County Health Unit set-up,

but I would like to see our Health Department come out flat-footedly and say what they actually believe in, as far as the coöperation that is possible between the practitioners of medicine and the Health Department. In other words, I would like to see our Health Commissioner say, "It is my opinion that health work in the State of Michigan, and health development, consists of education work, and so forth," and the various four or five things that I have pointed out to the Council before, so that there can be a definite understanding between the two groups. I believe if each side understands each other, if each branch of medicine understands the other, that the end-result will be very much better.

I hope that, as a result of this preliminary meeting, in the next few months all of the various agencies operating in the state can get together and do a good job.

Dr. T. F. Heavenrich (Port Huron): I have had many kicks from the doctors in my district, and I have attempted to give some thought to it. Mr. Boker called me out of the meeting this afternoon. We have had a lot of training of specialists. The thought I have is this, that we ought to train specialists in social service work. Each one of the organizations has its own social service workers. We have so many of them coming into our county. Each one of them wants to find something which can be taken care of. They are all trying to make records. That is natural; that is human. Would it be possible for each county to organize its own social service staff, and let any of these organizations that wish to come into the county to do the work there, to make use of a local county staff? They are familiar with the people and their problems. And, to a certain extent, they are familiar with financial conditions. To expect that the Couzens Fund, the Kellogg Fund, the Tuberculosis Association, or any other society, can come in and start their social service worker immediately, and expect to get the best results, is wrong. I have seen them come into homes, and pick out patients that could have been brought to the clinics; but if we had our own organization, and turned that organization over to them, when they want to come into the communities, couldn't they get somewhere? Then the local doctors, under those conditions, would have confidence in the need for the cases that are being brought into the clinics.

Dr. Corbus (Chairman): Before the meeting closes, we would like to have a word from the President-elect of the State Association.

Dr. Carl Moll: I do not think any one man or any group of men are ready to crystallize all of the thoughts that we have had expressed here this afternoon. It will take time to think these things over. I have learned a great many things this afternoon. My conception of the Couzens Fund is rather nebulous. I was very glad to hear what Dr. Carey had to say. I think it would be a very wise thing if all the members of the medical profession in Michigan had these things put before them, and his paper and his remarks be published. Also, have him or one of his representatives go before the various medical societies of the state; that these men would have an entirely different idea of the Couzens Fund. We all received a letter that was written to the State Medical Journal, regarding the Couzens Fund. I think Dr. Carey has seen that letter; and if Dr. Carey has not seen that letter, I think he ought to see it.

Dr. Carey: I have seen it.

Dr. O'Brien: When we were first starting with the institution at Howell, and starting with the State and County Tuberculosis Sanitariums, the idea and thing was sold to the profession and the laity. Those institutions were to teach people how to take care of themselves, how to go home and take care of their folks, and take care of their relatives and other people from contracting tuberculosis. That is not so many years ago. We can recall in 1904 and 1905, and possibly as late as 1908, when this thing was first started. There was a slogan out, "No Tuberculosis in Michigan in 1930." I think Dr. Hafford remembers that slogan, "No Tuberculosis in Michigan in 1930." They were going to accomplish this by teaching people who had tuberculosis how to take care of themselves. Dr. O'Brien's statements are a little revolutionary. I do not know how the Michigan tuberculosis specialists are going to take this, that it is not a medical disease, that it is a surgical one. I am not here to argue that point with him. I do not know if any of the other men want to, but I want to say this, that we have started on a mighty progressive movement, a movement that is going to mean much to the profession of Michigan, not only to Michigan, but to the whole country, and we have got to bear the brunt of the burden of the pioneer work, and I think it is becoming to every one of us to put our shoulder to the wheel and put this thing across.

Dr. Corbus (Chairman): I want to thank the guests who so kindly came to us today and have given us so much. I am sure that what you have said to us today will go back to the profession through the Councillors. And, Doctor, by lapse, because I am not as familiar with parliamentary works as the Speaker of the House, but it has been called to my attention that I spoke of the Executive Session in which I should have said "Closed Session." The President, and President-elect from the Council meet tonight.

The meeting will now stand adjourned.

(Adjournment.)

COUNTY SOCIETIES

GRATIOT-ISABELLA-CLARE COUNTY

The May meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Park House, St. Louis, Thursday, May 14th. Nineteen members and three visitors had dinner together, after which President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved. The application of Doctor L. F. Hyslops of Mt. Pleasant was presented for membership in the Society. This was referred to the Board of Censors and on their recommendation Doctor Hyslops was duly elected to membership in the Society.

President Harrigan then introduced Doctor Raphael Isaacs, Assistant Director of the Simpson Memorial Institute, Ann Arbor, who talked to the members on the different types of anemia and their treatment, illustrating the subject with lantern slides.

Some points the Doctor made were that you should give large doses of iron by mouth. He suggested ferric ammonium citrate in 50% solution, dram one, three times a day.

There is a distinct disadvantage in giving iron intravenous, because it has to get back into the intestine before it can be used by the blood.

There is not any advantage in giving iron in pernicious anemia.

No evidence that vitamins improve the hemoglobin.
No evidence that ultra-violet light is any help.
Arsenic may be beneficial in myelogenous leukemia.
One vial (10 grams) of ventriculin a day will maintain the blood after it has reached normal.
Blood can usually be returned to normal without giving HCl.
On behalf of the Society, President Harrigan thanked Doctor Isaacs for his instructive talk.
Meeting adjourned.

E. M. HIGHFIELD, M.D., *Secretary.*

MANISTEE COUNTY

The Manistee County Medical Society met at Mercy Hospital Tuesday, June 16, at 6:30 P. M., and seated eighteen at one of the dinners for which the hospital is famous—they must be eaten to be appreciated.

Following dinner regular matters of business were hurried through and Dr. C. L. Grant, President, introduced Dr. Richard R. Smith of Grand Rapids, who gave an instructive, interesting, and practical discussion of the Cancer Problem, with special emphasis on Cancer of the Breast.

The speaker presented, by means of lantern slides, a series of statistics of cases from the service of Drs. Smith and Vandenburg showing the actual improvement in the treatment of cancer of the breast as regards the mortality rate, meanwhile giving us a rapid survey of the field covered and the means by which these improvements have been made.

The Society enjoyed having Dr. Smith and wish to commend the Cancer Committee on the excellent selection of the speaker. More programs of this type will be welcome at any time.

ELLERY A. OAKES, *Secretary.*

JACKSON COUNTY

The May meeting of the Jackson County Medical Society was held at the Elks Temple Tuesday evening, May 19.

Dr. Meads, who is chairman of the June picnic committee, announced that the picnic would be held at the Inverness Country Club, where golf, swimming, boating, horseback riding and bridge will be available for those attending.

Dr. Porter moved that no meeting be held in September, inasmuch as it would come about the time of the State Medical meeting. Motion seconded by Dr. Clarke. Dr. Peterson amended the motion to the effect that the matter of the September meeting be left to the Board of Directors. The amendment was carried.

Dr. Peterson announced that the probable date of the Clinic sponsored by the County Society would be the first week in November.

Dr. Clarke stated that if the Health Education Committee was to put on a health exhibit at the County Fair this year it would be necessary for the Society to donate sufficient funds for this purpose. Dr. O'Meara moved that this committee be allowed to spend an amount to be approved by the President, Secretary and Treasurer. Dr. Enders amended the motion to the effect that the committee be allowed an amount not to exceed $185. Amendment lost. Motion as made by Dr. O'Meara and seconded by Dr. Porter was carried.

Dr. Riley announced that Sample & Blackmere wish to offer a golf prize to the best golfer among the Jackson medics. Dr. O'Meara moved that this prize be accepted and competed for some Thursday afternoon during August. Motion carried.

Dr. Kudner stated that there would be a combined meeting of the Foote and Mercy Hospital Staffs next month, at which time Dr. Carl Weller of Ann Arbor would conduct a Clinical Pathological Conference.

Dr. Enders, Chairman of the Membership Committee, reported the application of Dr. Norman D. Wilson back to the Society without recommendation. It was moved and seconded that the application be laid on the table indefinitely. Motion carried.

The meeting was then turned over to Dr. Clarke, who introduced Dr. Lupfi Sa' di, who graduated from the American University of Beirut and who is now connected with Harper Hospital, Detroit. Dr. Sa' di spoke on Arabian Medicine.

UPPER PENINSULA MEDICAL SOCIETY

The thirty-fourth annual meeting of the Upper Peninsula Medical Society will be held August 13 and 14, 1931, at Houghton. Headquarters and scientific exhibits will be at the Douglass House; business and scientific sessions at the Kerredge Theater, Hancock.

The following program has been arranged:

August 13—9:00 A. M. Registration of members at Headquarters (Douglass House, Houghton).

MORNING SESSION:

10:00 A. M. Welcome address by Dr. Hotchkiss, President, Michigan College of Mining and Technology.
10:15 A. M. Response by Dr. C. N. Bottum, Marquette, President Upper Peninsula Medical Society.
11:00 A. M. Address: Dr. C. C. Slemons, State Commissioner of Health.
11:30 A. M. Paper, Indirect Inguinal Hernia, Etiology and Treatment with Simplified Surgical Technic, Dr. F. S. Stocking, F.A.C.S., Calumet, Mich.
12:00 Noon. Adjournment for lunch.

AFTERNOON SESSION:

1:00 P. M. Paper, "Gastric Surgery," Dr. Norman Allen, Associate Attending Surgeon, Harper Hospital and Instructor in Surgery, Detroit College of Medicine and Surgery.
1:30 P. M. Paper, "Surgery of the Gall Bladder and Ducts," Dr. Waltman Walters, Surgical Section of Dr. Waltman Walters, Mayo Clinic.
2:00 P. M. Paper, "Acute Intestinal Obstruction," Dr. R. C. Stone, Battle Creek, President, Michigan State Medical Society.
2:30 P. M. Paper, "Pelvic Infections," Dr. Norman F. Miller, Iowa City, Prof. Obstetrics and Gynecology State University Iowa College Medicine.
3:00 P. M. Recess, 15 minutes.
3:15 P. M. Paper, "Surgical Kidney," Dr. Armour Fletcher, Milwaukee, Professor of Genito-urinary Surgery, University Marquette Medical School.
4:00 P. M. Paper, "Nephritis," Dr. E. K. Kerr, Chicago, Professor Internal Medicine, Rush Medical School.
4:30 P. M. Paper, "Pathology, Heart and Kidneys," Dr. V. C. Weller, Ann Arbor, Professor Pathology, University Medical School, Ann Arbor.
5:00 P. M. Adjournment.
7:30 P. M. Society Banquet for Physicians and Ladies at Douglass House.

August 14, MORNING SESSION:

Meeting called to order at 9:15 A. M.
9:30 A. M. Paper, "Coronary Disease," Dr. N. C. Gilbert, Chicago, Specialist and practice limited to diseases of Heart.

10:30 A. M. Paper, "Some Phase of Orthopedics," Dr. V. L. Hart, Ann Arbor, Professor, University Medical School, Ann Arbor.
11:00 A. M. Paper, "Surgery of Sympathetic Nervous System," Dr. A. W. Adson, Surgical Section of Neurology, Mayo Clinic.
11:30 A. M. Paper, "Mental Health of Children," Dr. E. H. Campbell, Medical Supt., Newberry State Hospital, Newberry.
12:00 A. M. Paper, "Diseases of Rectum," Dr. Louis Hirschman, Detroit, Proctologist.
12:30 Noon. Business Meeting and Election of Officers for 1932.
1:00 P. M. Adjournment for lunch.
2:00 P. M. Golf for members desiring golf at Houghton Club.
2:00 P. M. Clinic at St. Joseph's Hospital, Hancock, Mich.

WAYNE COUNTY

Dr. H. W. Plaggemeyer, Detroit, assumed the presidency of the Wayne County Medical Society as of July 1, 1931. He will serve in that capacity for one year and will be succeeded on July 1, 1932, by Dr. H. Wellington Yates. The personnel of Dr. Plaggemeyer's thirty-three boards and committees will be announced in The Bulletin of the Wayne County Medical Society, issue of July 15, 1931. The committees will be composed of some 238 physicians and surgeons of Detroit and Wayne County.

The attendance at the four postgraduate courses held in Detroit from June 15 to June 27 was most satisfactory. The graduate subjects were fractures, internal medicine, gynecological pathology, and surgery.

The list of essayists and papers presented before the Wayne County Medical Society and the Noon Day Study Club during the 1930-31 season was published in two issues of the June Bulletin. One hundred three speakers appeared during the eight months' period from September, 1930, to May, 1931, of which seventy-nine were Detroit physicians and surgeons. Twenty-three lecturers were importations from other American and European cities. The Program Committee was most encouraged to note the large number of Detroit men who are writing and reading papers.

Dr. Frank A. Kelly, Treasurer and a member of the Board of Trustees of the Wayne County Medical Society, was honored by being elected President of the American Medical Golfing Association, an organization composed of Fellows of the American Medical Association. The election took place after the annual tournament and dinner at the Aronimink Country Club, Philadelphia, June 8. The A. M. G. A. lists some 1,000 medical golfers among its ranks.

The Cafe of the Wayne County Medical Society is enjoying great popularity these warm days. The roof garden, opened formally on May 28, is above and away from the heat and turmoil of Woodward Avenue and is always refreshingly cool and handy for the medical men to enjoy good food and quick service. During May, the Cafe served 2,024 luncheons during the twenty-five working days. Its total income amounted to $1,320.00.

Dr. Murdock M. Kerr, a member of the Wayne County Medical Society, is a candidate for election to the City Council of Detroit.

Mail handled in the Executive Office of the Wayne County Medical Society during May amounted to 2,568 pieces, of which 979 was incoming and 1,590 outgoing mail.

Harry M. Hoxsey, Director of a Detroit "cancer clinic," who was sentenced May 8 by Judge W. MacKay Skillman in Recorder's Court to serve six months in the House of Correction for practicing medicine without a license, appeared before Judge Skillman on May 29 to request permission to leave the jurisdiction of the court. Hoxsey said he had received word from his former home in Muscatine, Iowa, that his brother, Dan, had been found shot to death in an automobile there. Hoxsey said his brother had been connected with a radio station. Hoxsey's request was granted. He is at present at liberty under a $2,000.00 bond.

The Public Education Committee of the Wayne County Medical Society is now scheduling two and three radio talks over Station WEXL per week. The medical broadcasts are given on Tuesday, Thursday and Friday, 10:30 to 10:45 A. M.

The annual reports of all committees for the year 1930-31 are being published in The Bulletin of the Wayne County Medical Society. Every committee has held numerous meetings throughout the year, some as frequently as one per week. As a result, definite progress has been made by the Society.

The following resolution, passed by the Council of the Wayne County Medical Society, may be of interest:

RESOLUTION

"In view of the fact that members of the medical profession of Wayne County, Michigan, are being exploited constantly by professional and amateur advertising solicitors to insert cards in various programs, year books, magazines, calendars, etc., which usually results in veritable donations of many thousands of dollars each year by said doctors;

"THEREFORE, BE IT RESOLVED: That The Council of the Wayne County Medical Society be appointed a Board of Censors to investigate each and every request of this nature, with a view to curtailing such financial inroads; and

"BE IT FURTHER RESOLVED: That all solicitors for said cards in programs, periodicals, and other media, whether for advertising or charitable purposes, be requested by each doctor to submit all proposals for such advertisements to the Board of Censors for approval, before said doctor invests in the scheme."

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. W. L. FINTON, Secretary, Jackson, Mich.

BAY COUNTY AUXILIARY

Dr. James W. Inches, Detroit, addressed the members of the Bay County Medical Society and their wives the evening of June 6 at the ladies' night dinner meeting at the Hotel Wehonah. After being introduced by Federal Judge Arthur J. Tuttle, Dr. Inches showed slides and movies of trips he took through Africa and made explanatory comments upon them. Several Saginaw guests were included among the seventy present.

INGHAM COUNTY AUXILIARY

The Ingham County Auxiliary closed its year on Monday, May 8, with a membership of sixty-two members. The past winter members sewed at each of the local hospitals making baby garments, surgical pads, bandages, and, just before Christmas, 200

Christmas candy bags. Three complete layettes were donated by members and were used in emergency cases. At Thanksgiving and also at Christmas large baskets of food were taken to the home of a needy physician. Members are trying to make the Ingham County Auxiliary worthy of existence and as the membership increases, accordingly will the good work increase.

New officers elected for the coming year are: Mrs. H. S. Bartholomew, president; Mrs. P. C. Strauss, vice president; Mrs. T. P. VanderZalm, secretary-treasurer.

THE DOCTOR'S LIBRARY

SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 11, number 2. (Lahey Clinic Number—April, 1931), 248 pages with 88 illustrations. Per clinic year (February, 1931, to December, 1931.) Paper, $12.00; Cloth, $16.00. Philadelphia and London.

MEDICAL CARE OF THE WAGE EARNER. Norman E. Clarke, M.S., M.D., Cardiologist-in-Chief of Grace Hospital, Consulting Cardiologist North-End Clinic. 1931. Herald Printing Company, Detroit.

This is a most interesting little book. In ten well written chapters the author has analyzed the medical situation as it obtains particularly in the larger cities. He has discussed the economic background, describing clearly the condition in which the wage earner finds himself a dehumanized factor in industry to be cast aside when invention has displaced him by the automatic machine. He has been the victim of high pressure salesmanship coupled with low "sales resistance" and installment buying. Even if employed, he is usually unable to meet the emergency of sickness in his home. Hence the free clinic. The wavering faith of the public in the medical profession as evidenced in popular magazine articles is discussed at length. This Dr. Clarke considers only of a transitory nature, after which the physician will establish himself more firmly than ever in public estimation. The medical profession itself also comes in for critical examination. Three chapters deal with industry. Then we have a plan for medical care of the wage earner and his family. Whether one agrees entirely with the author's conclusions the book is thought provoking and therefore worthy of attention as a constructive contribution to the subject.

PRACTICAL X-RAY TREATMENT. By Arthur W. Erskine, M.D., Roentgenologist to St. Luke's Methodist Hospital and Mercy Hospital, Cedar Rapids, Iowa, member and past president of the Radiological Society of North America, member of the American Roentgen Ray Society, Chairman of the Section on Radiology of the American Medical Association, fellow of the American Association for the Advancement of Science and of the American College of Radiology, member of the Committee on Standardization of X-ray Measurements of the Radiological Society. The Bruce Publishing Company. St. Paul, Minnesota. Price $3.50.

This small book is primarily intended for roentgenologists who are forced to do X-ray therapy under circumstances which satisfy only the essential requirements. It is devoted entirely to the author's methods with no attempt to consider the different opinions of various writers. The entire subject is covered in a brief and direct manner without sacrificing anything essential. The chapters devoted to the theory and physics of X-ray treatment are not burdened with the usual complicated mathematical discussions and formulæ. The absolute (r) unit of dosage is used and only the most accurate methods of measurement are described, thus eliminating much confusion. The author believes that the first essential for successful X-ray therapy is accuracy of dosage. This he thinks can best be obtained by using the fewest possible technical factors. Therefore only three technics are described in the treatment of pathological conditions by means of the usual "10 inch" apparatus. A fourth technic is described which is suitable for equipment of 200 kilovolts capacity. In view of the wide variety of technics in use and the variation in the results obtained it seems that this viewpoint cannot be over-emphasized. The conditions suitable for X-ray therapy are considered under three headings, namely, skin diseases, non-malignant conditions and malignant conditions. Practical suggestions for the medical care and management of patients receiving irradiation are also included. There are twenty-eight illustrations, including curves, tables and isodose charts. There is indeed need for just such a work as this and we have seen none to date which better fulfills the purpose for which it is intended. Everyone who is at all interested in X-ray treatment should have it. Dr. Erskine's name is sufficient recommendation.

COLLECTED PAPERS 1904-1929. By Edwin Beer, M.D., New York. With 252 Illustrations. Pages 827. Paul B. Hoeber, Inc., New York, 1931.

This volume consists of a collection of medical papers on a variety of subjects covering a period of a quarter of a century. It is made in the attractive style for which the Hoeber publications are noted. The subjects are chiefly surgical. They are classified under gastrointestinal tract, papers on the liver, on the spleen, on the spinal cord, concluding with a number of miscellaneous topics. Those who have been familiar with the author's work over this period will welcome this work in which they may have the results of Dr. Beer's studies assembled between convenient covers.

CLINICAL DIAGNOSIS BY LABORATORY METHODS, A WORKING MANUAL OF CLINICAL PATHOLOGY. By James Campbell Todd, Ph.B., M.D., late professor of clinical pathology, University of Colorado School of Medicine and Arthur Hawley Sanford, A.M., M.D., professor of clinical pathology, University of Minnesota (The Mayo Foundation), Head of Section on Clinical Laboratories, Mayo Clinic. 7th ed., thoroughly revised with 347 illustrations, 29 in colors, 765 pages. W. B. Saunders Co., Philadelphia, 1931. Price, $6.00 net.

Another edition of this standard work on laboratory technic and diagnosis is to be welcomed. The numerous changes in text, distributed throughout the work, bring it up to date. A forty page index and an outline index of the laboratory findings in a number of diseases make the subject matter readily available.

HEART DISEASE. Paul Dudley White, M.D., Instructor in Medicine, Harvard Medical School; Physician Massachusetts General Hospital, Boston. Pages 931. Price $12.00. New York, The Macmillan Company. 1931.

This is preeminently a work on heart disease. Such subjects as anatomy, physiology, pathology, pharmacology, while important, are incidental to the main theme of the work. The reader is referred to authoritative works on such subjects that deal more exhaustively than is desirable in a book of this nature. The volume is divided into four parts. Part one deals with the examination of the patient and an evaluation of his symptoms; the second part discusses the causes of heart disease; the third part, the structural changes present in the heart and great vessels, and the fourth part takes up disorders of function. "No longer in the diagnosis of heart disease," says the author, "can we be content to think of pathology alone, nor yet should we abandon the structural changes to think of function alone." The author would add also to these a third, namely, the etiological factor. The subject of treatment of each

condition is included in the chapter or section dealing with that condition. When we consider the place that deaths from cardiac disease occupy in the mortality statistics in the country, the importance of such a work as this cannot be over-estimated. It is a work not only for the specialist in heart disease, but also for the general practioner who meets these cases first. Among the many excellent chapters, one to which we call particular attention is that on cardiovascular roentgenology. If a study of the contour, size and position of the heart is of any importance at all to the physician or cardiologist, it seems to us that X-ray examination should be employed much more extensively that it has ever been. There is no other part of the human anatomy that lends itself more admirably to X-ray examination than the thoracic cage with its contents. In the chapter mentioned the author goes into detail in the matter of a contribution of roentgenology to cardiovascular disease. The author has appended a bibliography of over 200 pages; also an extensive list of questions or problems the study, and as far as possible the solution, of which would extend as well as crystallize one's knowledge of the subject.

HANDBOOK OF PHYSIOLOGY. W. D. Halliburton, M.D., LL.D., F.R.C.P., F.R.S., Emeritus Professor of Physiology, University of London, King's College, and R. J. S. McDowall, M.B., D.Sc., F.R.C.P. (Edin.), Professor of Physiology, University of London, King's College. Nineteenth Edition with numerous illustrations in the text, many of which are colored plates. Philadelphia. P. Blakiston's Son and Company, 1012 Walnut St. 1930. Price, $4.75.

This nineteenth edition has followed closely upon its immediate predecessor, which it has been the reviewer's pleasure to review at length in a comparatively recent number of this Journal. Many of the older generation of doctors in this State have a kindly interest in Halliburton's and McDowall's Handbook of Physiology or Kirk's Handbook of Physiology as it was originally called. This work was originally a product of old St. Bartholomew's Hospital, London. The first edition appeared in 1848. The present authors, Halliburton and McDowall, have maintained an active interest in keeping the book revised so as to embody the latest advances in the science of physiology. In this nineteenth edition the revision has involved almost every page either in new material or re-arrangement of the order within the chapters. Comparing the present edition with its predecessors, general physiological processes have been emphasized rather than the functions of isolated organs.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Editors: Carey F. Coombs, M.D., F.R.C.P., and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.P. Twenty-nine Contributors. Forty-ninth Year. 1931. New York. William Wood and Company. Price $6.00.

This work, as is well known, deals with the recent advances in medicine and surgery. The subjects are arranged alphabetically. They are covered with as much detail as the scope of 525 pages will permit. The work is well illustrated and very carefully indexed. When a work has been before the profession for forty-eight years, a new edition needs scarcely more than an introduction. The present work will be found an admirable desk companion not only for the general practitioner, but those engaged in the various specialties as well.

NUTRITION AND DIET IN HEALTH AND DISEASE. By James S. McLester, M.D., Professor of Medicine at the University of Alabama, Birmingham, Alabama. 2nd. ed., revised and reset, 891 pages. W. B. Saunders Co., Philadelphia, 1931. Price, $8.50.

The second edition of this work is a fairly comprehensive and up-to-date summary of the field of nutrition. It deals with metabolism, digestion, nutritional factors, food products, the normal diet and the feeding of infants. Throughout, the medical viewpoint is emphasized as indicated by the treatment of deficiency diseases, diabetes, gout, obesity and leanness, anaphylaxis and food poisoning, diseases of the urinary tract, of the digestive organs, of the heart and arteries, of the blood, of the joints, of the nervous system, and of the endocrine organs and skin. There is a section on the feeding of surgical patients. Tables of weight and height, food values, chemical composition of foods and special methods of feeding are included. Throughout the work the author quotes much recent work, dealing with it in a moderate way, sometimes, however, to the extent of vacillating from one extreme position to another. A good bibliography appears at the end of each chapter and the inclusive index renders it a good desk reference.

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THE JOURNAL

OF THE

Michigan State Medical Society

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DIAGNOSIS AND TREATMENT OF COMMON SKIN DISEASES OF CHILDHOOD*

CLARK W. FINNERUD, M.D.†
CHICAGO

Aside from the exanthematous fevers, syphilis, and birth-marks, probably the most important and common dermatoses of infancy and childhood are impetigo, scabies, ringworm, seborrheic dermatitis and eczema. To this list might well be added lichen urticatus and perleché, because, though not ordinarily recognized as such, they are commonly encountered. About half of the above group are of infectious origin. The list of cutaneous disorders affecting infants and children comprises many important diseases, but fortunately most of them are rare. Certain common ones, such as intertrigo, prickly heat, pediculosis, warts, etc., are of so little importance as scarcely here to require mention.

IMPETIGO CONTAGIOSA

Impetigo, a disorder practically devoid of subjective symptoms, is essentially a disease of childhood. The lesions occur, for the most part, on the exposed parts of the body, the hands and face. Although not contagious, as implied by its name, it is highly infectious. When one child of a family has it, unless treatment is instituted promptly, usually several or all of the children become affected.

*Read before the Michigan State Medical Society, Benton Harbor, September, 1930.

†Assistant Clincal Professor of Dermatology, Rush Medical College of the University of Chicago.

Impetigo contagiosa is due to bacteria, streptococci chiefly, which presumably are present to some extent normally on the skin of all of us. They gain access into the skin at the site of an abrasion, such as might occur from a scratch, a cut, or picking the face with dirty fingernails, or the disorder may occur secondarily to a "running" nose or ear. It spreads rapidly, several or many lesions being present within a few days after the disorder is contracted. It may be transmitted from one individual to another from the use of a common towel or washcloth and by all forms of intimate contact.

The lesions are usually split-pea to coin sized, serous crusted, discoid, more rarely circinate, plaques. The crust is ordinarily larger than the underlying inflamed area; that is, it overlaps the true lesion. It is best described as being of "stuck on" appearance. In the average case there are less than a dozen lesions present.

In infants, this eruption is not uncommonly a bullous one and is, therefore, properly spoken of as *bullous impetigo* and improperly referred to as "pemphigus neonatorum." The latter name is to be condemned, in that the disorder is in no way to be considered a form of pemphigus. Bullous impetigo sometimes spreads through a hospital ward rapidly, many or all of the infants becoming afflicted, and in some instances it is responsible for a fatal termination.

In children and adults rarely, if ever, do serious consequences occur, and certainly never in properly treated cases.

Impetigo in rare instances may be confused with herpes simplex, ecthyma, pustular eczema and ringworm.

Extralabial herpes simplex begins as a group of papulovesicles in an infiltrated and sensitive area and the lesions usually remain but one or two in number, clearing spontaneously in the course of about a week. Often there is history of similar lesions having occurred in the same area.

Pustular eczema occurs in larger patches and usually is much more extensive, affecting largely the face, scalp and the folds of the flexor surfaces of the extremities, infiltration, weeping and itching being outstanding characteristics.

Ecthyma, similar as it is to impetigo, is a much more formidable process, the lesions being larger, deeper-seated, and with a reddened infiltrated areola.

Ringworm, particularly as it affects the glaborous skin, is sometimes confused with impetigo. It is necessary in such an instance to examine scrapings of the lesion in hydroxid, a procedure which takes but a couple of minutes, and if it is ringworm the fungi will be readily demonstrable when the preparation is examined under the high dry power of the microscope. The technic of this extemporaneous examination follows, and it is applicable for practically all fungi that affect the skin, hair or nails, as well as for cutaneous parasites. The scale, hair, nail-scrapings, vesicle-roof, or papule is transferred to a clean glass slide and a cover-glass is applied. Two or three drops of ten per cent to twenty per cent sodium or potassium hydroxid are allowed to run in under the cover-glass, and the specimen is then heated gently for a few seconds. This minimizes the appearance of the cutaneous cells, in case it does not disintegrate them altogether, and leaves the highly refractile yeasts, true fungi, and parasites and their ova outstanding. This method of examination should be routinely employed in the diagnosis of scabies and all types of ringworm, and it is indispensable in the diagnosis of certain other cutaneous affections, such as blastomycosis and actinomycosis.

Impetigo of the bearded region of adult males, commonly contracted in barber-shops, is usually diagnosed "barber's itch." This is a mistake, as "barber's-itch" is ringworm of the beard, a very rare disorder and one usually seen in farmers, the result of attending infected cattle.

The mercury group, properly employed, is the treatment of choice in cases of impetigo. The parts should be bathed morning and evening for about ten minutes with a warm solution of mercury bichlorid, this varying from 1:2000 to 1:5000 in strength. Following the bathing in the morning a calomel dusting powder of about 12 per cent strength should be applied, this to be left on during the day. The formula for such a powder would be: Mild chlorid of mercury, 4 grams; boric acid, 4 grams; and equal parts of starch and talc to make 30 grams. Following the bathing at night, an ointment containing from 3 to 6 per cent of white precipitate should be used, this to be left on over night. In case the inflammatory element is particularly marked, which is not usually the case, it is best to combine the

white precipitate with a naftalan ointment of 10 per cent strength. The formula for such an ointment would be: Ammoniated mercury, 1 gram; naftalan, 3 grams; starch and zinc oxid, each 8 grams; and petrolatum sufficient to make 30 grams.

In that there is perhaps one individual in a thousand who is hypersensitive to mercury preparations, in his particular instance it is necessary to stop the mercurial preparations and to use such a treatment as potassium permanganate bathing of the parts followed by rather mild sulphur preparations.

The above measures will manage practically any case of impetigo within five to ten days, it rarely being necessary for the individual to make a second visit.

SCABIES

Scabies is caused by an animal parasite, the *Acarus scabiei,* which burrows in the topmost layer of the skin. The organism is of much the same appearance as a louse, but much smaller, being scarcely visible to the naked eye.

Almost invariably the itching is worse at night, after the body has become warm in bed. Considerable itching is often experienced during the day, however, when the body has become warm from exertion, from exposure to an overheated room, or from the wearing of excessive clothing. Usually there are innumerable parasites present before the afflicted individual is well aware of the fact that he has a skin disease. If one member of a family is affected, usually several or all of them are. Most commonly the disorder is contracted through occupying a bed with an infected individual. The sites of predilection are the trunk and extremities, there being no sign of it above the collar bone or below the ankles, except in infants. The most typical lesions are seen between the fingers and on the wrists, and here they exist as about match-head sized vesicopapules, on the surface of some of which are seen a delicate, black, thread-like, straight or curved line which varies from an eighth to a quarter of an inch or more in length. These lines are the visible paths of the parasite in the skin and consist of a furrow filled with dirt, eggs, and excrement of the organism. Usually there are a dozen or more eggs in each furrow, and at one end of it is the parasite. The eggs give rise to new parasites which crawl out onto the surface of the skin. Here the females, which are the only ones that burrow, are fertilized, the males remaining on the surface. The female perishes after burrowing and laying her eggs. On regions other than the hands, wrists, genitals, and buttocks the lesions exist chiefly as papular excoriations about the size of a pin's head, lesions which can hardly be recognized as those of scabies, at least without microscopic examination.

In every case of suspected scabies, the organisms or the ova should be demonstrated under the microscope, by way of clinching the diagnosis, this even in the presence of rather definite clinical history and findings. This is done by slicing off the top of a lesion, putting it on a glass slide, applying a cover-glass, and allowing two or three drops of 10 to 20 per cent sodium or potassium hydroxid to run under the cover-glass. After gently heating such a preparation, microscopic examination will reveal a parasite or its ova, or both, in case one is dealing with scabies.

Scabies need be differentiated chiefly from pediculosis corporis, pruritus hiemalis and eczema. Pediculosis manifests itself as papular excoriations of the trunk and extremities combined with linear scratch-marks on the parts easily accessible to the hands. The itching is worse during the day. The organisms may be found in the underwear, particularly in the seams, and the ova attached to body hairs.

Pruritus hiemalis occurs on the legs, thighs and forearms chiefly, the genital region and hands being free. There is no initial eruption in this disorder, the skin changes, aside from dryness, being merely the result of scratching; in other words, a traumatic dermatitis. The itching occurs upon disrobing, when the cool air strikes the skin, rather than after retiring.

Eczema is readily differentiated from scabies by the presence of infiltrated patches, whereas in scabies the lesions are discrete.

Probably the best treatment is the old-fashioned sulphur treatment, which consists of applying a sulphur salve for five successive nights. After taking a scrub-bath the infected individual should apply the salve from the neck to the ankles, including the hands. A suit of underwear with long sleeves and legs should be worn continuously night and day, it becoming permeated with the sulphur, and thin cotton gloves should be worn at night. On the morning following the fifth application of the salve a cleansing bath is taken and clean clothing put on.

Some itching may persist, but it is due to irritation of the skin by the sulphur. This ordinarily is allayed by a few daily applications of olive oil. For infants and young children a 5 to 7 per cent sulphur ointment is used; for middle-aged children a 10 per cent ointment is employed; and for adults one of 15 per cent strength. The sulphur should be put up in ungt. petrolatum to which about 20 to 25 per cent of lard has been added. Another sulphur preparation, one of rather complicated formula, known as the Danish ointment, constitutes a fairly satisfactory remedy for this disease, its greatest advantage being the fact that supposedly but a single application of it is necessary. Having seen many recurrences of the disorder from a single application of it, however, it has been found advisable to use it for two successive nights, by which procedure it is effective, though more irritating to the skin than is the former preparation.

RINGWORM

Ringworm of the Scalp.—Ringworm is a disease of the skin, hair, and nails which is produced by numerous varieties of parasites belonging to the large group of fungi. In children, ringworm is seen chiefly in the scalp, and practically all the cases of ringworm of the scalp are in children. There are three general varieties of ringworm in this area. The organism most commonly responsible for the disorder is the *Microsporon audouini*, and in fresh sodium or potassium hydroxid preparations is seen the hair stump so thickly surrounded by small spores as to give it the appearance of a mosaic. About 95 per cent of the cases of ringworm of the scalp are of this type. The disorder is highly infectious, as is illustrated by the fact that if one child of a family has it, usually several or all of them contract it. There are few or no subjective symptoms, and the disorder disappears spontaneously, for some unknown reason, at the age of puberty.

This type of ringworm begins as one or more patches in which the hairs appear to be nibbled off a few millimeters above the level of the scalp. These patches gradually enlarge and fuse, not uncommonly to such an extent as to involve practically the entire scalp. Ordinarily, however, there are present from three to a dozen such patches. Many of the hair stumps have a whitish sheath about them, and the patch in general has the appearance of having been strewn with ashes, this grayish appearance being due to a fine scaling in the area. There is usually no redness or other sign of inflammation of the underlying scalp. Permanent baldness does not result from this type of ringworm.

The next most common type of ringworm of the scalp is called "kerion" and, unlike that just described, is moist. Although it is seen most commonly in children, it sometimes occurs in adults. This variety is usually contracted from playing with animals that are infected with the causative organism, most commonly dogs and cats. This variety constitutes only about three per cent of the cases of ringworm of the scalp. Apparently it is not so infectious as the type previously described, but the infected child should not be allowed to attend school until he can be pronounced non-infectious. This type usually occurs as from one to three or four swellings, varying in size from that of a hazelnut to that of a hen's egg. The swellings are somewhat tender. Not uncommonly the lymph glands of the neck are slightly enlarged. The lesions of the scalp are soft and feel as though, upon puncture, pus would be evacuated, but they do not contain pus. The hairs in the area are usually broken off at various lengths, and the inflammation present pushes these hairs from their follicles in the course of a few days or weeks. From the gaping follicle mouths a colorless, syrupy fluid exudes. Any hairs in the area can be pulled out like pins from a pin-cushion. After a variable period of time, usually several weeks, the disorder clears up spontaneously, but proper treatment hastens the disappearance of the lesions and prevents the spread of the infection to other parts of the scalp and to persons with whom the affected individual is associated. Scarring, with baldness, usually results from this type of ringworm.

The spread of the infection is prevented and the duration of the disorder is lessened if a ten to fifteen per cent sulphur or white precipitate ointment is used on the lesions morning and evening, and applied to the entire scalp once weekly.

A third type of ringworm of the scalp, the rarest type, occurs as black dots, the size of a pin-head or smaller, scattered over the scalp. Ordinarily, it can be detected only by the expert eye, although sometimes it is first noticed by the observant mother or attendant when she is shampooing the child's hair.

It causes very little loss of hair and is responsible for no irritation. This type, like the first described, is of human origin. The black dots mentioned may be seen even in individuals with light hair. They are produced by the growth of a single hair curled upon itself beneath a small transparent scale. No scarring results.

So far as the treatment of the first and last mentioned varieties is concerned, local treatment in the form of ointments and lotions is effective in something less than 50 per cent of the cases. The ointments commonly used are strong salicylic acid preparations, such as the so-called "Whitfield ointment," which contains six per cent salicylic acid and twelve per cent benzoic acid in petrolatum, or an ointment containing twelve per cent of iodin crystals in goose grease, these preparations to be rubbed into the patches nightly.

In case the individual does not respond satisfactorily to these or similar simple local measures, it may be necessary to produce complete epilation of the scalp either by means of the X-ray or by the ingestion of thallium acetate. Neither one of these measures is without danger, and they should not be resorted to if the child is near the age of puberty, in which case it is best that he be allowed to outgrow the disorder. The dosage of thallium acetate must be measured extremely accurately, according to the weight of the individual. It is given in a single dose by mouth. The hair falls in between two and three weeks after the drug has been administered and begins to return in the course of about three months. X-ray epilation of the scalp hair should be carried out only by one skilled in this procedure, by way of avoiding, to as great an extent as possible, the dangers which may arise from improper X-ray administration.

Ringworm of the Body.—Ringworm of the body usually occurs as from one to a dozen red rings varying in size from a half-inch to an inch and one-half in diameter. In the beginning the lesions are usually solid discs, but within a few days after their appearance they clear in the center, thus forming a circle. The lesions may be of the dry type, there being only redness and scaling, or they may be of the moist type, in which case there are small vesicles at the outer edge of the ring, the vesicles later becoming small crusts. One type occurs with about the same frequency as the other, and in any given instance the lesions are entirely of one type. There are itching and other sensations, but they are usually mild. Ringworm of the body is commonly, but not always, contracted from the handling of cats, dogs, and other pets whose hairs are infected with the fungi. If there are several children in the family, usually more than one is affected and not uncommonly the mother or nurse also. This type of ringworm responds readily to proper local preparations, the so-called Whitfield ointment usually proving effective.

Ringworm of the Hands, Feet, Crotch, and Armpits.—Ringworm of the hands and feet is deserving of separate description, because it has certain characteristics not seen in the other types of ringworm of the body. It is most often contracted from walking barefoot on floors infected with the causative organism, notably those in shower rooms and gymnasiums. Usually this variety begins between and under the toes as an itching, fissuring, and maceration of the skin. Later, vesicles usually appear on the soles and sides of the feet. These vesicles are deep-seated; they tend not to rupture spontaneously but to dry up and leave brownish keratoses at their sites. The disorder is almost invariably worse in hot weather. Itching is usually periodically intense, and, as a result of scratching the feet, the individual transfers the organisms to the other parts of the body on which they will grow. It is a peculiar fact that the organism usually will grow readily only on the feet, hands, crotch, and armpits. The eruption seen on the hands frequently is almost identical with that occurring on the feet, but the organisms rarely can be demonstrated in the hand lesions. It is thought, therefore, that the hand eruption is usually a toxic form of dermatitis, the result of absorption from the foci on the feet.

Although ringworm of the feet is not so common in children as in adults, it is, nevertheless, not infrequently encountered.

Ringworm occurs in the crotch and armpits as diffuse, red, scaling areas which itch intensely and have the appearance of irritation produced by chafing. As it occurs in these areas, it is the disorder referred to as eczema marginatum or "gymnasium itch."

In spite of the fact that ringworm in its various forms may simulate a good many disorders, an accurate diagnosis of it can al-

ways be made by means of the hydroxid examination described above.

Fortunately, ringworm of the hands, feet, crotch, and armpits is usually easily remedied, a fifty per cent to full strength Whitfield ointment usually managing it successfully within one to three weeks. Chrysarobin in five to ten per cent strength in petrolatum or traumaticin is also serviceable, but it should be used only until it has set up an inflammatory reaction, usually five to ten days, at which time a soothing ointment such as Lassar paste (U.S.P.) or zinc oxid ointment (U.S.P.) should be substituted for it. The chief drawback, so far as chrysarobin is concerned, is the fact that it stains badly.

LICHEN URTICATUS

Lichen urticatus is a form of urticaria which is peculiar to infants and children, and which ordinarily disappears spontaneously at the age of puberty. Its cause is unknown. It is characterized by repeated exacerbations, periods of quiescence, and relapses. These cases seem to be more numerous and more severe during the warmer months. The lesions occur chiefly on the trunk and extremities, evidence of the disorder for some reason very rarely being observed on the exposed portions of the body. For the most part, the lesions make their appearance during the night. They consist primarily of match-head to pea-sized wheals, not unlike a mosquito-bite in appearance, in the center of each of which a minute papule or vesicopapule forms. Because of the severe itching the child scratches this new lesion, thus excoriating the papulovesicle, and a small crust forms at the site. The urticarial lesion disappears within an hour or two, so that all that remains at the site is a papular excoriation. Therefore, when the patient is examined during the day, one simply sees blood-crusted, papular excoriations disseminated over the trunk and extremities, although there may still exist around some of these lesions a pinkish areola representing the site of the former wheal. Not uncommonly, marked dermographism can be demonstrated in these patients by drawing the finger nail or an applicator across the skin in any place.

Lichen urticatus must be differentiated chiefly from scabies. In scabies there usually is a history of other members of the family being similarly affected, and there are characteristic lesions in that disorder from which the organism and its ova can be readily and practically invariably demonstrated. It has been said that prurigo sometimes requires differentiation from lichen urticatus, but the similarity is rather far fetched, prurigo being more like papular eczema. Prurigo, though seen rather commonly in Austria and other European countries, is an extremely rare cutaneous disorder in this country.

The treatment of lichen urticatus is far from satisfactory, but these patients can be given considerable relief during their attacks and can be assured that they will recover from the disorder eventually. Internally, sodium bicarbonate in three to ten grain doses in syrup of rhubarb, given after meals, is probably most often of service. Locally, antipruritic lotions and ointments are indicated, one of the most serviceable of which is a lotion composed of equal parts of black wash and olive oil, to which has been added 15 c.c. of liquor carbonis detergens to the eight ounce mixture, this to be applied as necessary for irritation.

ECZEMA

Eczema is a chronic inflammatory disease of the skin which affects persons of all ages and is particularly common in infants and young children. Until recently it was considered the most common skin disorder. Many disorders which previously were diagnosed as eczema are no longer so classified. More and more has been learned about the causes of these various eruptions, and at the present time there remains very little to represent the term eczema. Some authors even class this as "sensitization dermatitis," thus entirely disposing of it.

Eczema is non-infectious and is produced by both external and internal agents in an individual whose skin is sensitized to these agents. Very little is known concerning the internal factors of most importance which are capable of producing eczema. Eczema, therefore, is a form of sensitization dermatitis, and in any given case one might also find that there is a history of the individual having other sensitization disorders, such as asthma, hay fever, and hives. Foods of all kinds, carbohydrates and fats as well as proteins, may be important causative factors. Not uncommonly a mother observes that her child's condition is aggravated by the eating of eggs, or foods containing eggs, or other

foods, but usually it remains for the physician to make such a discovery. Although a physician can ascertain by skin tests the foods to which the individual is sensitive, the elimination of these from the diet often does not remedy the trouble. The disorder is by no means entirely due to food sensitization, as it is too generally regarded to be.

Eczema in infants and children occurs as a redness, scaling, swelling, and crusting in large, ill-defined areas. It usually affects most markedly the face, the neck, the front surfaces of the upper extremities, and the back surfaces of the lower extremities. A particularly common site is the bend of the elbows and knees. However, any and all surfaces of the body are susceptible to it, and there are all grades of severity. Vesication, pustulation and papulation may be present in varying degrees. Itching is a very prominent and distressing symptom. The disorder usually begins within the first few weeks of life, and in a large percentage of the cases, either because of treatment or in spite of it, clears up permanently by the time the child is a few months or a few years old. In a small percentage of the cases, however, perhaps ten per cent, the individual is troubled to some degree for many years, or throughout life, although the eruption tends to be more or less periodic.

The care of the general health of a patient with eczema is of importance. So far as diet is concerned, carbohydrates and fats should be limited. Any articles of diet which can be demonstrated practically, rather than by positive cutaneous tests alone, to be contributing factors, should be avoided.

Although arsenic in the form of Fowler's solution is the drug of choice in the treatment of eczema, it should not be employed in the instance of infants or young children. Infants, particularly if obese, are usually benefited by the taking of calomel, grains one-twentieth to one-tenth, three times daily for periods of two or three weeks. Of service, also, is sodium bicarbonate in three to ten grain dosage, in equal parts of syrup of rhubarb and water, a teaspoonful being given three times daily. In the instance of older children, arsenic may be used, beginning with three drops of Fowler's solution, three times a day, after meals, and gradually increasing up to eight or ten drops. Or it may be desirable to administer the arsenic in the form of the Asiatic pill. This pill can be obtained in dosages from one-sixty-fourth grain of arsenic trioxid up to one-ninth grain. In any instance, when arsenic is being employed the urine should be tested for albumin every two or three weeks by way of determining the presence or absence of any kidney irritation from its use.

There are many local preparations which are serviceable in the treatment of eczema. Chronically infiltrated patches respond best to some of the more stimulating preparations, notably tar. The formula for such an ointment is as follows:

℞:

Crude coal tar	2
Zinc oxid	2
Petrolati qs.	30

Sig. External use.

For routine use, however, and particularly for acute exacerbations, one will usually receive gratifying results from the use of a ten per cent naftalan or a two per cent ichthyol ointment, Lassar's paste being a desirable base. The formulæ for these are as follows:

℞

Ichthyolis (Merck)	2
Amyli pulv.	
Zinc oxid. aa	25
Petrolat. q.s.	100

℞

Naftalan	10
Amyli pulv.	
Zinc oxid. aa	25
Petrolat. q.s.	100

Ointments should be applied continuously to involved areas, a fresh application being made morning and evening, the former application having been cleansed off first with olive oil. Soap and water should be avoided on all involved areas.

So long as the child scratches, the eczema will persist. It is therefore often necessary, particularly with infants and young children, to apply a mask and splints.

Lotions are poor substitutes for ointments in eczema.

One is justified in certain instances, but never in the case of infants, and when the treatment can be carried out by the hands of one versed in treating the skin in this manner, in employing a limited amount of roentgenotherapy on obstinate patches. This is very effective but equally dangerous if not properly done. Ultraviolet irradiation is sometimes of service but is far from dependable. Nonspecific protein therapy often

accomplishes a great deal in the treatment of this disorder, but here again infants must be omitted from such therapy.

SEBORRHEIC DERMATITIS

Seborrheic dermatitis is one of the most common inflammatory skin diseases. It affects all ages but is particularly common in children. While it is probably an infectious disorder, it is not transmitted from one individual to another. Internal factors, the nature of which often cannot be ascertained, undoubtedly are of importance in many cases.

As it occurs on the scalp, a very common site for it, it resembles what might be considered a severe form of dandruff. There is profuse, flaky scaling and crusting, diffuse or patchy, on an itchy, inflamed scalp. In ordinary dandruff, the underlying scalp is not inflamed. The earliest manifestation of seborrheic dermatitis is often the scaling and crusting of the crown of the head of infants which is known to mothers as the "milk crust" or "cradle cap." Seborrheic dermatitis commonly occurs on the face and in its mildest form resembles what is popularly spoken of as "chapping." Red, scaling patches of various sizes occur on the chin and cheeks, at the angles of the nose, and elsewhere. One of its most common manifestations in children is redness, scaling, weeping, and crusting behind and in the ears. This is usually associated with scaling in the eyebrows, inflammation of the eyelids and particularly of the lid margins, and involvement of other areas to varying degrees. Any area of the body may be affected except the palms of the hands and the soles of the feet; these areas are never involved because they have no sebaceous (fat) glands. The disorder is an inflammation of the fat glands of the skin, presumably associated with an infection of these glands. In various respects it is so much like some forms of eczema that it often cannot be differentiated sharply from it. Hairy areas, as well as surfaces which are in apposition, are much more likely to be involved than is the case with eczema, such as the scalp, pubes, axillæ, and groins. Seborrheic dermatitis is also frequently seen on the chest and back.

One who is subject to seborrheic dermatitis may have it in one form or another at intervals throughout life almost regardless of treatment, but this is not the rule. In other words, while treatment is of definite value, a person afflicted with the disease cannot be assured that he will never again be affected.

The treatment of seborrheic dermatitis is essentially the same as that of eczema. In the scalp and other hairy areas, best response is usually obtained from the use of mild salicylic acid, sulphur, or ammoniated mercury preparations, these being used in two to five per cent strength, put up in a plain grease such as petrolatum or unguentum aqua rosa.

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OBSERVATIONS ON THIOCYANATE THERAPY IN HYPERTENSION

WILLIAM C. EGLOFF, LYMAN H. HOYT and JAMES P. O'HARE, Boston, state that their results with thiocyanate therapy in hypertension, interpreted in the light of conservative control and with due consideration for the disagreeable symptoms produced, were so nearly uniform that they should at least serve as a warning against too great enthusiasm for this drug. Of twenty-five patients only two reacted favorably to the administration of sodium thiocyanate and even in these two the reaction was not particularly striking or different from what is seen in many other patients who have had no treatment whatever. In the remaining twenty-three cases, not only did the drug fail to lower the blood pressure or relieve the symptoms, but it produced very disagreeable side effects.—*Journal A. M. A.*

INTERSTITIAL KERATITIS

In a check-up examination of sixty-seven persons five years after all active symptoms of interstitial keratitis had subsided under intensive antisyphilitic treatment, MAUDE CARVILL, Boston, noted that in twenty-three cases the vision had improved, in thirty-two it had not changed, in nine it was not as good, and in three data were not available. In five of the nine cases in which the vision had failed there were other complications such as cataract, choroidal changes in the macula, glaucoma secondary to marked chorioretinitis of diabetes, exophthalmic goiter, and phlyctenular keratitis. In none of these sixty-seven cases has there been a recurrence of interstitial keratitis during the five years. One patient, however, had a syphilitic iritis; one had a cataract; one had an acute glaucoma secondary to a severe diabetic chorioretinitis, and one had phlyctenular keratitis.—*Journal A. M. A.*

SEPSIS IN INFANCY AND CHILDHOOD*

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Septic infections occur during every period of life from infancy to senescence. It is the purpose of this paper to give in brief the mechanism of infection and the defense reactions of the organism, particularly as they occur during young life.

Our conceptions concerning sepsis have been continually modified by important advances in immunology and bacteriology. Since the study of bacteriology first began we have gradually learned about the morphology and the action of groups of microörganisms, their virulence, pyogenic properties, their tendency to produce toxins, and their recovery from the blood stream. Numerous fruitful investigations have been made along this line, and an entirely new vista of knowledge has been brought to light.

Almost any pathogenic microörganism, Schottmüller maintains, may be the cause of sepsis. He enumerates a long list, among which may be mentioned streptococcus pyogenes, streptococcus hemolyticus, streptococcus viridans, streptococcus mucosis, pneumococcus, staphylococcus, gonococcus, meningococcus, Friedländer's bacillus, pyocyaneus, typhoid, paratyphoid, and Fränkel's gas bacillus, among others.

We understand by sepsis a general infection of the entire organism without definite or specific visceral changes. The tubercle bacillus produces characteristic changes in the lungs, bones, joints; the typhoid bacillus produces characteristic intestinal ulcers. In septic infections no such characteristic organic lesions prevail. In sepsis there is a primary focus of inflammation from which constantly or periodically bacteria or their toxins are poured into the blood-stream, producing general manifestations which overshadow the local changes in the primary focus. In sepsis the entire organism is involved. We must distinguish sepsis and bacteremia. In the latter condition bacteria may occasionally be recovered from the blood, but there are no deleterious effects. Bacteremia has its source in a focus of infection somewhere in the body, and clinicians have come to believe from actual experience that the presence of bacteria in the circulating blood does not necessarily constitute a diagnosis of sepsis. On the other hand, it may be impossible to recover organisms from the blood in some cases of genuine sepsis. It is thought by many excellent authorities that bacteria do not multiply in the blood during sepsis. The organisms are never so numerous in the blood as might be expected if they multiplied there. After death the bactericidal power of the blood diminishes, and the microörganisms may increase in this medium—the so-called agonal invasion. To repeat, then, what has already been said, the cause of general sepsis is not explained by the multiplication of microörganisms in the blood, but their constant or periodic entrance into the blood stream from a focus of infection. Possibly this explains the occurrence of recurrent attacks of fever, chills, and sweating which we see clinically. It must be assumed that bacteria which gain access to the blood are deposited in other tissues or organs, and it has been demonstrated by various investigators that the first place of localization of bacteria is in the reticulo-endothelial system. If the reticulo-endothelial system does not form an effective barrier, a generalized infection will ensue. As long as the bacteria are limited by this line of defense, no general infection occurs.

We may refer briefly to the subject of virulence of invading organisms. Virulence of an organism is a fluctuating and relative quantity. There seems to be clinical evidence that virulence varies from season to season. Every clinician has observed the variability in the severity of epidemics of influenza, scarlet fever, measles and other infections. Sometimes these epidemics are characterized by their mildness, and at other times by their severity. The medical historian and geographer, Hirsch, has pointed out in his study of scarlet fever, extending over many years, that a cycle of severe manifestations is frequently followed by another cycle milder in character.

A study of septic infections is not only to be considered in the light of the virulence of

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the offending organisms, but also in relation to the response of the defense reaction of the body. As long as this defense mechanism functions effectively, there is no sepsis. Its failure to react adequately leads to generalized infection.

Metchnikoff in 1882 introduced our modern conceptions of immunity by his studies in phagocytosis. Since that time many facts and theories have been elaborated to explain the mechanism by which animals resist infection. Long ago Pettenkofer took the position that the cholera bacillus was only one factor in the causation of Asiatic cholera. He thought that the health of the host and the hygienic conditions under which he lived were equally important. His once famous, though long since forgotten X, Y, Z Theory, based upon his personal observation and critical judgment, has been more or less confirmed in recent times by the more scientific deductions of immunologists and pathologists. To prove his theory, Pettenkofer and his assistant, Emerich, after rendering their stomach contents alkaline, each drank a culture of virulent cholera bacilli. Pettenkofer, then an old man, developed a simple diarrhea. Emerich developed a severe attack of cholera and nearly died. Pettenkofer believed that the validity of his theory was established by this experiment. This theory has been revived and amplified, and the latest views maintain that a major portion of the defense reactions depend on the efficiency of the reticulo-endothelial system. According to Aschoff, the reticulo-endothelial system consists of the reticulum cells of the splenic pulp, the Malpighian corpuscles, the bone marrow, the lymph nodes, and other lymphatic tissues. The cells of the reticulo-endothelial system have great phagocytic power, and experimentally it has been shown that they are able to store up colloids, dyes, metals, bacteria, and cell fragments. Investigators have also pointed out that the reticulo-endothelial system plays an important part in the metabolism of hemoglobin, iron, bile salts, fat, and water. The defensive functions of these cells are of the greatest importance in maintaining the immunity of the organism. Bacteria which are localized in the superficial tissues may be taken up by the histiocytes, and those circulating in the blood are taken up by the Kupfer cells of the liver, so that the blood is rapidly cleared of large quantities of circulating bacteria. If the phagocytes of the reticulo-endothelial system fail to take up the bacteria, the latter continue to swarm in the blood stream, and an overwhelming form of sepsis occurs.

The late Professor Maximow states the problem from a slightly different point of view. He believes that the connective tissue, the so-called mesenchyme, plays a predominant rôle in destroying noxious agents which endanger the normal course of life. He thinks that three cellular systems play a rôle in the defensive reaction against infection: (1) First there are the two kinds of hemocytes, the granular leukocytes and the monocytes. When the hemocytes take up their defensive rôle, leukocytosis is the clinical evidence of their activity. (2) Then there is the endothelium of the blood vessels. Numerous observers maintain that the vascular endothelium participates actively in the general defense reaction against noxious agents. While the function of the vascular endothelium may be important in maintaining or producing immunity, there is no evidence at hand to prove its significance along this line. (3) Finally there is the reticulo-endothelial system. These cells constitute the most important factor in the general defense reactions. Not only do these cells act as phagocytes, but they probably produce enzymes and participate in the formation of antibodies and hemolysins. It has been shown by L. Hektoen that antibody formation resides largely in the hematopoietic system, especially in the liver, bone marrow and spleen. By interfering with the function of these structures the antibody defense is measurably diminished.

J. Ramsay, in a recent publication, presents the hypothesis that successful resistance to bacterial infection depends largely on the orderly response of certain endocrine glands. The sympathicotrophic group, consisting of the thyroid, suprarenals, and pituitary glands and the vagotrophic group, consisting of the parathyroids and pancreas, are said to have an important function in the defense mechanism against infection. He believes that the thyro-parathyroid group regulates the phagocytic properties of the leukocytes in a normal individual. Extirpation of these glands in monkeys produces increased susceptibility to infection. He also attempts to explain the fact that in certain individuals comparatively mild infections may prove fatal without adequate explanation. He thinks such results may be

due to endocrine imbalance and to a lowering of the immunity of the organism. While this view is interesting and suggestive, it is, like many of the present day opinions concerning the function of the endocrine glands, difficult to confirm by clinical or experimental methods.

There is an evident difference in the susceptibility of younger and older individuals to certain infections. Experiment has shown that young animals show a lower resistance to bacterial and protozoan infections than older animals. Neufeld thinks that the greater resistance of older individuals is due to the fact the defensive mechanism is better developed in the mucous membranes and lymphatics. In general, it has been held that the lower immunity of younger individuals may be explained by a number of factors: the poor complement content of the serum, the weak antibody formation, and such non-specific factors as the diminished defensive powers of the mucous membranes and the lymphatics. Every clinician of experience has witnessed the high mortality due to erysipelas in young infants, the severity of scarlet fever, measles, diphtheria and similar infections in babies. These diseases take on a severe form during the infantile period of life and the mortality is unavoidably high.

SEPSIS IN INFANTS DURING THE FIRST THREE MONTHS

The ravages of septic infections among infants which occurred in the pre-antiseptic and pre-aseptic era are practically unknown to the present generation of physicians, though even now the condition occurs perhaps more frequently than is commonly recognized. All infants are particularly susceptible to septic infection, though this is most marked in the premature. This hyper-susceptibility is due to a number of causes: (1) the skin is readily penetrated because of the thinness of the stratum corneum; (2) the mucosa of the stomach and intestine is readily traversed by living organisms; (3) antibodies are less readily formed. Septic infections occur more frequently in artificially fed infants; breast fed infants are protected to a considerable degree by the bactericidal substances in the mother's milk.

There are various portals of entry and modes of infection which are particularly characteristic of sepsis in infancy. (A) Infections in young infants may be hematogenous, as in the case of a mother suffering from an infectious process. The organisms reach the infant's body through the maternal circulation. (B) Aspiration of infected amniotic fluid may be the source of infection. Bacteria may gain access to the amniotic fluid even though the membranes are intact, or after rupture of the membranes. The infant may aspirate the infected fluid and develop an aspiration pneumonia to be followed by a fatal sepsis. In some instances the amniotic fluid, which contains particles of desquamated epithelium, meconium, vernix caseosa and lanugo, may cause an aspiration pneumonia, the organisms invading the respiratory system secondarily.

(C) Umbilical sepsis is due to faulty aseptic technic in the management of the umbilical wound, and is no longer as frequent as formerly. It is estimated that it occurs in about 1 per cent of babies born in large clinics. The infection may be conveyed to an infant from a mother who is suffering from puerperal sepsis.

(D) Infection may occur through the mouth cavity. Streptococcal infection has been observed in infants who developed Bednar's aphthæ. Abrasion of the mucous membrane with subsequent septic infection was not uncommon when washing and wiping the mouth was in vogue.

(E) Enterogenous sepsis is another type. This occurs readily in infants on account of the permeability of the gastro-intestinal mucosa to bacteria. Not only the bottle fed, but also the breast fed infant may be infected by impure milk. Sepsis has developed in infants who have been nursed from mothers suffering from mastitis.

(F) Urinary infection may occur, particularly in female babies. It has been assumed that organisms from fecal discharges may gain access to the urethra and ascend to the bladder, renal pelvis, and renal parenchyma, though a hematogenous infection cannot be excluded in some instances.

Sepsis in infancy is characterized by its sudden onset and severe course. The typical form of sepsis in very young children is the pure septicemic type, characterized by the presence of pathogenic organisms and their toxins in the blood. As a rule, the infection becomes generalized without an intermediary lymphangitis or lymphadenitis. A typical pyemia, with the development of metastatic abscesses is not as frequent as in

later life, though it does occur. Osteomyelitis, purulent arthritis, and inflammation of the serous membranes may develop as complications. Metastatic empyema and pneumonia, as well as endocarditis and pericarditis, are observed. Purulent peritonitis is frequent after umbilical infection. At the onset the fever is usually very high, but in many cases it declines after several days and becomes irregularly remittent. Before the end, collapse with subnormal temperature may develop. In weak asthenic babies the course of the disease may be afebrile. Hemorrhage and persistent icterus are characteristic manifestations of sepsis in infants. The icterus may be so intense that the skin appears bronzed. Hemorrhages may occur into the skin from the navel, from the mucous membranes, and some cases of melena may be of septic origin. Buehl's disease and Winckel's disease are probably septic in character. Hemorrhagic nephritis is not an infrequent occurrence. Skin eruptions of various kinds are not uncommon, such as roseola, morbilliform or scarlatiniform rashes, sclerema, and edema.

The diagnosis of sepsis in young infants may present great difficulties. The demonstration of a primary focus is not always possible. The appearance of the navel does not always reveal the nature or severity of the infection. Neither umbilical periarteritis nor thrombophlebitis can be diagnosed with certainty in the living child. Internal metastases may be overlooked by the most astute clinician. Hemorrhages into the skin are strikingly suggestive of septic infection. Positive blood cultures, though not easily obtained at this period of life, offer the best confirmatory evidence. Nevertheless, the clinical viewpoint should occupy first place in establishing the diagnosis.

GENERAL SEPSIS PAST INFANCY

Probably the most frequent atrium for septic infections in childhood is through the tonsils, pharynx and communicating cavities. A familiar example is furnished by the severe tonsillar infection of scarlatina. In this connection it may be stated that it is not universally conceded that the hemolytic streptococcus is the causal factor of scarlet fever. There are those who believe, after thoughtful consideration of the whole problem, that scarlet fever is caused by a filtrable virus and that the streptococcus plays the role of a secondary invader. The exciting organism, whether it be a filtrable virus or a secondary invader, may find lodgment in a wide expanse of mucous membrane, including the area from the tip of the nose to the larynx, with the addition of the mouth cavity, the accessory sinuses, the conjunctival sac, the middle ear with its antrum, the mastoid, and the eustachian tube. Werner Schulz has recently expressed some doubt as to whether the tonsillar tissue is the point of entrance of the infection or whether the angina occurs during the process of elimination of the organism during a general infection. In point of sequence of infection it may be difficult at times to decide how the infection gained access to the body. Sometimes a tonsillitis occurs during the course of a septic gonorrhea in adults, in typhoid fever, or in syphilis. There can be no doubt that in these diseases tonsillitis is secondary. On the other hand, no one will deny that the tonsillar tissues may be, and frequently are, the atrium of infection. The tonsils and pharynx in scarlet fever very soon may become the site of an inflammatory necrosing process. The neighboring lymph nodes frequently become involved. While these may suppurate and remain local, in the severest cases metastatic or pyemic processes result, such as, endocarditis, pericarditis, myocarditis, pleurisy and pneumonia, osteomyelitis, appendicitis, peritonitis, and septic infarcts of the kidneys and spleen.

Necrotic anginas of streptococcic origin may arise independently of scarlatinal infection and may produce severe septic complications. In the grippal infections, whether due to the presence of the influenza bacillus or to streptococci, severe sepsis with selective localization in the respiratory system or in the nervous system may occur. In these cases meningitis is of not infrequent occurrence, and the influenza bacilli have been recovered from the spinal fluid.

In every case of tonsillar infection or angina, septic infection is a possibility, and probably occurs more frequently than is commonly thought. One is struck by the variety and multiplicity of manifestations. At times the angina occurs ten or fourteen days before septic symptoms manifest themselves. At the onset chills are likely to occur, associated with more or less continuous or remittent fever. The history of chills is of greatest importance. A chill signifies that the focus of infection is in communication

with the blood stream and that the bacteria have gained access to the circulation. The occurrence of a chill in the presence of an angina is presumptive evidence of the presence of a thrombophlebitis. Cervical adenopathy develops early; multiple pulmonary abscesses may occur, and metastases may develop in various parts of the body. Thrombophlebitis of the palatal vein and of the cavernous sinuses have been observed in various patients. The local symptoms may improve, but the chills, fever, and metastases continue. As a rule, there is a marked contrast between the mild local symptoms and the severe general condition. Cases of post-anginal sepsis offer an unfavorable prognosis as a rule. Some of the patients run a hyperacute course, ending fatally in a few days, and in other cases the illness extends over a period of weeks or months.

In children past infancy sepsis is of relative frequency after otitis media and its complications, such as lymphadenitis, mastoiditis, and thrombophlebitis of the cerebral sinuses and jugular veins with advancing septic thrombosis.

In addition to the tonsils as a focus of infection, contaminated wounds, abrasions, fissures, phlegmons, severe eczema, and other pustular and vesicular eruptions, as well as erysipelas, may be a source of streptococcic sepsis. Rarely do septic processes originate in the lung. The bronchopneumonias so frequently encountered are nearly always secondary. The same is true of septic scarlet fever. The complicating pneumonias nearly always occur as the result of metastatic processes. Various alimentary infections may act as the foci of infection. Dysentery bacilli, producing intestinal ulcers, may enter the blood stream. The same is true of the ulcers of typhoid fever and tuberculous ulcers of the intestine. A perforated appendix with a subsequent peritonitis may produce a generalized sepsis, if the patient survives the first shock of the infection.

It is not possible here to go into great detail concerning the various clinical forms of sepsis which occur. Briefly, we may mention first the acute type of sepsis which develops rapidly, which is usually hyperacute in its manifestations, and which may cause death in two or three days. The foci of infection producing this sepsis have already been referred to, and may be an angina, a furuncle on the lip, or a multiple furunculosis. Indeed, any phlegmon or abscess may unexpectedly lead to a general sepsis and run an acute and fatal course.

Secondly there is a chronic form of sepsis, which is also spoken of as sepsis lenta. Clinically this type manifests itself as a rheumatism or a recurrent endocarditis. The chronic form frequently begins acutely, but may persist as a prolonged and protracted disease. The streptococcus viridans is frequently encountered in these cases.

A third form is that characterized by agranulocytosis. This condition, first described by Werner Schulz, involves first the tonsils, pharynx, gums, tongue and larynx, and sometimes there are ulcerations on the genitalia. The local process is necrotic, membranous, and gangrenous. The regional lymph nodes may become swollen, and the liver and spleen are sometimes enlarged. The blood findings are characteristic. The leukocytes are diminished, and the granulocytes are practically absent from the hemogram. The lymphocytes preponderate. The blood platelets, the red cells, and their hemoglobin content are usually unaltered. It has been assumed that this blood reaction is due to an acute septic process. The profound and varied changes in the blood forming mechanism may be due to a variety of causes, and the hemogram resulting from sepsis may be varied in character. Consequently, agranulocytosis may be one of the possible reactions in the course of a septic process. It is possible to conceive that it may be due to the nature of the organism, its virulence, to the degree of resistance of the host, or to several combined factors. The salient point is that agranulocytosis is probably not a distinct disease and that it should be regarded as a reaction of the organism to a septic infection.

There are various opinions concerning the etiology and pathogenesis of the acute leukemias. There is no certainty concerning their etiology. Nevertheless, there are those hematologists who consider the acute leukemias in the light of a blood reaction to a septic process. Other views maintain that the leukemias are due to an unknown specific organism. A somewhat older school of clinicians held that leukemia is a neoplastic process. It is evident that no dogmatic statements as to etiology are permissible at this time.

TREATMENT

It is regrettable that at this time no san-

guine message can be brought regarding the treatment of septic infections. Most important is the prophylaxis. Much has been accomplished in this direction. The conquest of puerperal fever, septic infections of the new-born, and surgical infections in general furnishes one of the most telling chapters in the development of preventive medicine. Surgical procedure still remains one of the most potent forces in the prevention of septicemia. We need only mention the benefits derived from appendectomy, mastoidectomy, or the ligation of a thrombosed jugular vein in post-anginal sepsis. Where foci of infection are accessible and where they can be irradiated the best results are obtained. If it is possible to remove the source of the infection sufficiently early, bacteria are no longer introduced into the general circulation.

Bactericidal and Antitoxic Treatment.—It may be possible in a future day to obtain some chemical agent which will have a bactericidal effect on foci of infection. Up to now we have no satisfactory chemo-therapeutic agent in the treatment of sepsis. Rudolph Benko (Wiener Med. Wchnschr., Mar., 1930) found that the ordinary antiseptics in use failed to give the desired result as a rule, because they were unable to gain access to the intra-cellular bacteria. The ordinary antiseptics, such as bichloride, pyoktanin, and others, could not accomplish the purpose. Nor were the ethyl-cuprine-hydrochloride preparations of Morgenroth more suited because they were unable to penetrate deeply into the cell. Benko, after many years, prepared a substance, ortho-oxy-chinoline, which is characterized by lipoid solubility and high surface tension. This is too irritating for practical use, but after many attempts he found that an ammonium derivative of this substance was capable of dissolving lipoids, entering the cell and destroying bacteria without causing cellular death. This preparation has not as yet been subjected to sufficient clinical test. If chemotherapy is eventually to succeed in the treatment of sepsis, it seems, according to the theory of Benko, that a preparation should be obtained which is capable of penetrating the cell and producing a bactericidal effect without injuring the cell substance.

When bacteria have found access to the blood stream, the problem that suggests itself is to find, if possible, effective bactericidal agents. Modern investigators agree that the blood itself is a bactericidal fluid. Many tissues of the body are also capable of similar action, though this function is diminished in severe sepsis. It would seem reasonable to introduce bactericidal sera into the body. This has been frequently tried in sepsis without encouraging results. Even the efficacy of immunotherapy, *i.e.*, the injection of vaccines into the donor followed by the injection of his bood into the recipient, does not always give the expected results.

Chemical disinfection has been employed by various investigators. Koch conceived the idea of introducing bichloride of mercury into the body for the treatment of sepsis. He found, however, that this chemical agent coagulated proteins and produced undesirable tissue changes. Since that time numerous chemical substances have been used, more recently the antiseptic dyes. Some investigators have thought that these substances acted not simply as antiseptics, but that they increased the resistance of the organism against infection by stimulating the defense reaction of the cells of the reticulo-endothelial system. However, we must abandon the idea that the injection of dyes is capable of producing complete sterilization of the blood stream. We may state, therefore, that with our present methods and in the present state of our knowledge there is no efficient bactericidal agent in the treatment of sepsis, whether it be a serum or a chemical disinfectant. Perhaps this does not apply to antitoxic sera. There is considerable evidence that the convalescent serum of scarlet fever or the scarlet fever antitoxin may under certain circumstances neutralize the septic complications of scarlatina.

Symptomatic Treatment. — Symptomatic treatment is a matter of common knowledge and may be referred to briefly. The nutrition of the patient should be maintained. Alcoholic drinks are sometimes recommended. Vascular collapse is treated with strychnine, adrenalin, and pituitrin. In cardiac decompensation digitalis may give symptomatic relief.

A brief review of non-specific therapy seems to indicate that protein injections of various kinds give poor results or even produce injury.

Opinion is divided concerning the benefits derived from the use of auto-blood injec-

tions, intra-muscular, intra-peritoneal blood injections, and blood transfusions. There is no doubt that in cases of thrombopenia and grave anemia a supply of blood is at least of temporary value. It may be possible to increase the immune bodies of the patient temporarily by introducing into the circulation a fresh supply of healthy blood. A blood injection may be considered the most rational and appropriate form of non-specific therapy.

Recently a form of intravenous therapy, which has been designated the "Blockade Treatment," has been suggested. Ten minutes before an intravenous injection is given, one c.c. of pituitrin is administered subcutaneously. Following this an injection intravenously of trypaflavin or some other dye or Pregle's Solution (an antiseptic solution of the sodium salt of hydriodic acid and iodic acid with metallic iodine—.04 per cent) is administered. It is assumed that the chemo-therapeutic substance is absorbed more slowly and is permitted to come into closer and more prolonged contact with the cells of the reticulo-endothelial system. In this manner the defensive mechanism of the cells is stimulated to increased activity.

The clinical results achieved by the various methods in the treatment of sepsis are not convincing. Claims are made by those who represent various methods of treatment, but there are no large series of cases, and the statistics supplied from the small groups, even if favorable, are not conclusive, because all will agree that types of sepsis vary with the kind of organism, the previous health of the patient, the varying degree of resistance and other factors which render comparison or uniformity difficult or impossible.

ILEUS WITH REPORT OF TWO-STAGE OPERATION*

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That the thirty-two feet of human intestine closely coiled within the peritoneal cavity is not more often subject to obstruction than it is, is a remarkable thing to contemplate. Somehow, the nerve and muscle mechanism of this alimentary tube, aided perhaps by gravity, manages to keep the traffic lane open, and thus it functions best. But, when any of the mechanism calculated to prevent stasis fails, or is interfered with, by inflammatory or mechanical conditions which also cause strangulation, then the natural resources and functions of the body are upset, and ileus, with its attendant seriousness, soon damages this delicate tube, and life itself is in danger. The pent-up gas, which soon begins to form when stasis and strangulation occur, and the toxic absorption of the products of the intestinal flora, together with gangrene toxins, produce more or less sudden violent reactions and symptoms, which should lead at once to an investigation of the cause, and of the site of the lesion, with prompt institution of measures for relief.

Patrick Henry, the great orator, gave the world a famous saying, "Give me liberty or give me death," which is just as trite in the realm of intestinal obstruction as it was when our forefathers fought to free our country from the tyranny of George III.

There are no new diagnostic signs in ileus, but there is less excuse today for overlooking obstruction, whether it be due to strangulated hernia, adhesions, growths, or intussusception. Burgess in the Lancet, April 27, 1929, says, "The present mortality rate in 1,042 cases with 396 deaths is 37.9 per cent." It is the high mortality rate we are out to reduce.

The only possible reason for high death rate in ileus is the delay in operating. The cases with distended abdomens, fecal vomiting, and signs of advanced toxemia are mostly cases which have been getting watchful waiting treatment and doses of morphine. To give morphine in acute abdominal pain without first making a diagnosis is little short of murderous. To smother the symptoms by subduing pain without a diagnosis never was, and never will be, proper therapy. Morphine is indicated in intestinal obstruction only when a diagnosis is made or when the patient is about to be taken to surgery.

Sometimes, all the signs of intestinal obstruction are not present, and we hesitate. Fecal vomiting is not always present, but if

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we wait for it, the chance to save the patient is all but lost. According to Burgess, "The only hand that ever paints a complete pathological and clinical picture of any morbid state is the hand of death." The man who waits for fecal vomiting will practically never make a mistake in diagnosis, but rarely, if ever, will be save his patient. "Far better for the community in general," he said, "would it have been had the original advent into the world of such a would-be infallable diagnostician been in itself a perfectly complete clinical picture of the process of still-birth."

The diagnosis is based upon the history and findings. The X-ray may be useful, but should be used without waiting to give barium and if possible the film should be taken in the standing position. Close observation may show the presence of visible peristalsis, providing the case has not reached the stage of extreme distension. Fever may or may not be present; usually it is absent at first, and later may be slightly elevated as the complications begin to appear. Although there is a lot of conflicting evidence concerning the toxicity of the material in the loops above the point of obstruction, it is evident that the contents are, to say the least, extremely toxic. The nature of the toxin is not known, and the toxicity varies considerably. However, in a case of the strangulation type of obstruction there is the added toxin of substances which are present in moist gangrene. Clinically, the high obstruction develops rapidly. If the bacterial content plays an important factor in the disease, low obstruction should have more marked and rapidly developing symptoms, because of the greater bacterial content of the lower bowel. But this is not so, for, on the whole, when obstruction occurs, its seriousness is in inverse proportion to the distance below the pyloric opening. In other words, the lower down the point of obstruction the less acute are the symptoms and less urgent the case for operation.

In acute intestinal obstruction, the pain is referred to the epigastric region. It is generally paroxysmal at first, later becoming continous as the obstruction becomes complete. The vomiting, like the pain, is at first reflex, and later the vomiting is due to mechanical obstruction, and appears earlier the higher the site of the obstruction. In the lower obstruction, as from carcinoma of the rectum, vomiting may be absent throughout. The emesis consists at first of gastric contents, later it is bilious, and still later brown and feculant in odor, or fecal vomiting.

Rectal examination is important. In some cases, the cause of the obstruction can be felt, or seen through a proctoscope, as in stricture, or growth of the rectum or sigmoid. Ninety per cent of the colon obstructions are due to carcinoma. In the small intestine, the chances are 300 to 1 against the obstruction being malignant. Out of 596 cases of small intestinal obstruction, only two were due to malignant growth, according to Burgess, who also states that "eighty-eight per cent of small intestinal obstructions are due to adhesions or internal strangulations."

Treatment: In the early cases of intestinal obstruction, say within twenty-four hours of the onset, with little distension and general condition good, immediate operation gives prompt relief. Locating the cause of the obstruction, cutting the bands of adhesions, short circuit or enterostomy should be done as indications point the way. But in the late cases with general abdominal distention, dehydration, fecal vomiting and exhaustion, the skill is often taxed to the utmost. Some surgeons advocate doing a blind cecostomy, under a local anesthetic through a small incision in the right iliac fossa. This is calculated to relieve the obstruction, provided it is in the colon. But, in many of these late cases, it is difficult or impossible to locate the obstruction before operating, and, if it should be in the small intestine, the cecal opening will not give relief and valuable time will be lost. If the colon obstruction has resulted in strangulation, the cecostomy relieves the obstruction, but not the strangulation, which ends in perforation and peritonitis. Statistics show that the risk of such strangulation being overlooked when a blind cecostomy is done is at the most only 1.5 per cent, but to me, even that risk is too great to take. If uncertain as to the site of the obstruction, and if the cecum is found to be distended, then a cecostomy should be done either through the original wound or through a gridiron incision in the right iliac region. With no definite knowledge of the location or cause of the obstruction at hand, then a paramedian laparotomy must be performed, and location definitely determined. The first order of search should be to examine, from

within, the hernial orifices. If not found there, pick up a coil of the collapsed intestine and trace upward to the site of the obstruction.

Souttar shows that a blind enterostomy is not so safe a measure for relief of small intestinal obstruction, and that the risk of overlooking a strangulated intestine would be at least 42.6 per cent.

A summary of the treatment of acute intestinal obstruction may be considered under five different heads, and careful attention to each is essential to successful therapy. They are as follows:

1. Removal of mechanical obstruction.
2. Relief of dehydration.
3. Relief of toxemia.
4. Relief of starvation.
5. Drainage of small bowel by enterostomy.

Good judgment would indicate that giving of large amounts of saline solution and glucose before operation puts the patient in a favorable setting for operation and improves the risk. By using hypodermoclysis, or an intravenous injection, 3 to 4 litres of water and 50 to 75 grams of sodium chloride may be given in a couple of hours. Salt solution in 2 per cent under the skin and 5 per cent in a vein may be given slowly. After the operation, saline solution should be continued until the patient can take fluids by mouth freely. Glucose furnishes the caloric energy and relieves the starvation. It may be given slowly in 10 to 25 per cent solutions in a vein and may be given in sufficient amount to produce 1,500 to 2,000 calories without doing harm. If necessary five to ten units of insulin three times a day should accompany the glucose.

The patient seen late with intestinal obstruction and in poor condition from toxemia, vomiting, and dehydration, requires prompt, skillful handling in order to meet the desperate condition present. The strangulated intestine with perforation and beginning peritonitis requires of course immediate resection. With beginning peritonitis and owing to the poor condition of the patient, it would be fatal to attempt immediate anastomosis. The only recourse is to leave an intestinal fistula with plenty of drains until the patient revives sufficiently to warrant closing the intestine and abdomen. As much time should be allowed to elapse after the emergency operation as possible before undertaking the closure, in order to build up the patient and develop immunity to colon infection; three to six months is not too long. The skin irritation about the wound of the intestinal fistula usually compels us to attempt closure sooner than we otherwise would. The various measures used to protect skin against intestinal secretions are futile, and all too soon the patient demands that something be done to obtain relief. The following case will illustrate some of the points in connection with the handling of a desperate condition, as well as the technic of the final closing of the intestine and the abdomen.

Case B. G.—Woman, 49. Married. Has two children. Family History: Father died of apoplexy at 62. Mother living and well, age 72. No brothers or sisters. Personal History: Had but few childhood diseases, but had severe typhoid fever at age of 12. Married at 25. At age of 32 had dermoid cyst of left ovary removed and two years later had her first child. Three years ago had hysterectomy for fibroid uterus.

Present Illness: On September 25, 1929, was taken with acute abdominal pain, vomiting, and obstipation. She called a physician, who gave a hypodermic of morphine, and from then on, with morphine at intervals, for four days, the symptoms persisted. On the evening of the fourth day I first saw the patient, and her condition seemed hopeless.

Examination: A slender woman, five feet seven inches tall. Weight, 120 pounds. Temperature 100F, pulse 120, respiration 28. Systolic blood pressure 100, diastolic 70. Some râles over chest, but no dullness. Heart dullness normal, no murmuurs, pulse rapid and weak. Moderate distension, no gas sounds heard, abdomen moderately tight, no signs of visible peristalis. Extreme tenderness over whole abdomen, and a mass was felt in the lower abdomen, which marked the most tender point. The mind was clear, expression anxious. The patient had vomited continuously for four days. States that emesis had occurred 25 times each day. The emesis had a fecal odor and the tongue was coated. After giving her 1,500 c.c. of saline solution by hypodermoclysis, she was taken to surgery.

Operation, First Stage: Under gas anesthesia, a left paramedian incision was made and a large, black perforated mass of small intestine was found in the lower abdomen. After walling off with hot packs, the strangulated gangrenous small intestine was lifted out of its bed. The involved intestine was found to be a loop of the jejunum, 14 to 16 inches in length, that had become twisted at the point where a band of adhesions joined the loop together. The band was cut, the loop freed and the gangrenous intestine cut off. The proximal and distal ends of the gut were fastened into the lower end of the wound, with an enterostomy tube in the proximal opening, four large cigarette drains were placed in the abdomen, and the wound closed down to the opening of the enterostomy. Every effort was made to hurry the operation in order to save the patient the shock of any prolonged operative procedure. Upon returning to her room she was given more saline hypodermatically, also glucose intravenously, and the Murphy drip was kept going for three days. She rallied, the vomiting ceased, took liquid nourishment by mouth and soon was convalescing. A period of ten weeks was allowed to elapse before undertaking the closure of the intestine. During this time the patient's resistance built up, she ate well, but the irritation of the

abdominal skin from the intestinal secretions was so annoying that it finally forced us to undertake closing the intestine a little sooner than we had expected.

Operation, Second Stage: After an ounce of castor oil the day previous and with nothing but water for twelve hours before operation, under gas, the operation was undertaken. On account of the infected granulation tissue in the scar of the first operation an attempt was made to close off the old wound by making an elliptical incision about 1 cm. outside the margin of the old incision, and as soon as the skin and subcutaneous tissues were incised to bring the edges of the wound together with a running stitch so as to close in the lips of the old wound, sealing up the scar, and covering in the ends of the intestine at the fistulous opening. The incision was then continued downward through the muscles and fascia and peritoneum, and the old wound, having been excised, was lifted up, the two ends of the intestine being attached to the old scar. Clamps were applied to the two intestine ends just below the scar, and the scar cut off. After further freeing the intestine so as to get it well up out of the wound, and making sure of the circulation from the mesentery, an end-to-side anastomosis was done, the distal end being joined to the sides of the proximal end. The distal gut was very much atrophied from disuse, but an anastomosis was easily accomplished. The blind end of the proximal gut was not closed, but a rubber tube was stitched into it, and the end swung under the peritoneum to a point four inches to the right of the incision, where it was fastened into a stab wound with the rubber tube left outside for drainage and to prevent distension. The original wound was closed with some difficulty on account of excising such a liberal amount of the scar of the old operation. Drains were left in the abdomen. The fistula, draining through the tube, took care of drainage and gas, and after about one week gas and fecal matter began to pass by the rectum. Closure of the fistula gradually took place and the patient's recovery without complication has become an accomplished fact.

DISCUSSION

DR. C. D. BROOKS (Detroit): I think, as has been stated before, that it is very important, when possible, to get the patient who has acute intestinal obstruction in as good condition as possible. In large bowel obstruction we feel also that it is very important not to operate as an emergency at the time the patient comes to the hospital, but to get him prepared by dextrose and saline intravenously and morphine liberally, and oftentimes after three or four days a week of this treatment they prove a very fair risk.

In obstruction of the smaller bowel, by strangulated hernia or any large loops of gangrenous strangulated bowel, if the gangrenous bowel can be brought outside the abdominal cavity and an enterostomy tube, both proximal and distal to the gangrenous bowel can be inserted, the patient may recover.

We feel in some of these desperately sick patients, with cold, clammy skin, that it is advisable not to attempt even removal of the gangrenous bowel at this time, but leave it alone for several days. In certain cases, if the proximal and distal enterostomy tubes can be connected by a glass tube, they will side track the gangrenous area.

It is highly important that no attempt should be made to do anastomosis in these very sick patients, as they will only die. If operation can be postponed for a few days they may live. We feel that the two-step operation for intestinal obstruction is a very vital factor.

DR. E. STARR JUDD (Rochester, Minn.): Every surgeon realizes that the presence of ileus constitutes a serious problem. However, experience has taught that certain kinds of treatment offer some advantage. Formerly we operated promptly upon the patient who came with a practically complete obstruction, distention and vomiting. We have learned that by medical treatment it is frequently possible to improve his general state and reduce the risk of the operation. During the acute illness the water balance is supported by saline and glucose. If the obstruction is only partially relieved the operative risk is nevertheless decreased. On some occasions it is possible to defer surgical treatment until the risk is materially reduced.

One of the sources of greatest worry is the partial obstruction that has its onset two or three days after operative procedure and in which there is gradually increasing abdominal distention. Gas may pass frequently by rectum but there may be intervals of retention of gas. Sometimes the patient vomits only occasionally. It is often difficult to decide whether an operation is a necessary procedure. While I value and very thoroughly believe in enterostomy as a relief for acute intestinal obstruction, I doubt the advisability of performing the operation until the condition absolutely demands it. In some instances an operation will be required. Other patients will have pain and difficulty for several days and then finally the condition will take care of itself. In the latter instance I believe the partial obstruction is practically always due to a low grade peritonitis. Ileus is a condition that tries one's judgment as much as any that a surgeon encounters.

DR. J. G. R. MANWARING (Flint, Mich.): The Doctor discussed to some extent the general consideration of intestinal obstruction. There is one thing I would like to say about that. Some have taken dogs, put a window in their abdomens and made beautiful movies of the intestines in action. The dog lies flat instead of upright so that we get an imperfect understanding of the process. If you will observe these pictures showing peristaltic action, you will notice the part that contains fluid sinks out of sight and the loops with gas rise to the top. If the pictures could be taken in the upright position, this up and down motion would be very clear.

We know that adhesions of the small intestine are more serious than adhesions of the large. This is because the up and down movement is stopped by the fixation so that fluids have to be lifted up and over the fixed point. If this point is low down the gas has to be pushed down and under it. If it is high up liquids have to be pushed up and over it. With free floating intestines the liquids lie low and are stationary, the intestines moving instead, floating up and down without lifting the liquids or pushing down the gas.

The colon has no such free movement but instead usually pushes on less liquid contents by an additional lengthwise contraction.

The doctor spoke of the two-stage operation for obstruction. It seems to me one of the greatest pieces of magic given to surgeons in the past fifteen or twenty years has been enterostomy. No doubt it saves many lives.

It seems to me in those cases of post-operative obstruction, following local peritonitis, developed after operation, it is seldom a good thing to search for your obstruction. In my experience an enterostomy has sufficed nearly always in those patients where you do not fear gangrene and other things.

By the way of differential diagnosis, I think the

X-ray examination made without anything but air in the intestines, is very valuable. It will differentiate between large and small intestine. You can tell easily about where the obstruction is by the appearance of the air markings.

Now in the large intestine, he spoke of cecostomy. Cecostomy is used occasionally, but I seldom use it any more. We have to do a drainage operation more often for obstruction due to carcinoma, of course, than anything else. If the case comes to you with obstruction, the two-stage operation is absolutely the thing to do. And in case you can, you can do a colostomy. If the obstruction is higher, rather than do a cecostomy, when possible, I do a colostomy of the transverse colon, because if I can't relieve the condition causing it, I can leave the opening and have more control of the contents than you can from a cecum. The cecum usually has liquid contents; after a long time sometimes they get so they are not so liquid. In the transverse colon, at the middle, you get stools more or less formed, and in case you can't do anything further, they are much more comfortable. Since using the transverse colon more freely, I have had no occasion to do cecostomy.

As I said, the two-stage operation is a life-saving procedure for I think we are tempted to do too much frequently in these cases. I think spinal anesthesia has added a great deal to the ease with which some particular cases are explored without damage. But people, if they have passed middle life, are fat or distended, do not stand spinal anesthesia well. It is a thing to be used with discrimination.

DR. ROY D. MCCLURE (Detroit): I would just like to emphasize the importance of early diagnosis in ileus cases. Some patients come to a fatal ending who might not otherwise have done so were early proper diagnosis made of the condition. If an early diagnosis of ileus can be made there is less call for the two-stage operation.

EXCRETION UROGRAPHY*

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In reviewing the roentgenographic studies in the first fifty cases in which iopax was used in the Department of Urology at the Detroit Receiving Hospital, some points in its favor and some against its use as a routine procedure in X-ray studies of the urinary tract are worthy of emphasis. In this series, the authors have attempted to evaluate the diagnostic worth of this iodine-containing substance, which in many cases is excreted from the blood stream by the kidneys, in a concentration sufficient in intensity for X-ray visualization of the urinary tract. During the past twelve months, the literature has been replete with articles dealing with the many aspects of intravenous urography in practically all countries where complete diagnostic work is being carried out.

Like any new addition to the methods of diagnosis and treatment in medicine and surgery, there is bound to be an over-estimation of the value of such an agent, closely followed by an expression of disappointment by those who have found a greater percentage of failures than were admitted by early enthusiasts. It would appear that the statement of the American distributors to the effect that, "a short time after the injection of this compound, a clear X-ray picture is made of the urinary tract," requires elucidation.

The work of Graham in cholecystography a few years ago stimulated workers to continue the attempts of Rowntree and his co-workers,[1] who, in 1923, published the results of their rather disappointing attempts at visualization of the urinary tract through intravenous injection of sodium iodide in ten per cent solution, also by large doses of the iodide by mouth, and who at that time were able to visualize the bladder and occasionally the pelvis and ureter, in a limited number of cases. Volkmann,[2] repeated a portion of Rowntree's work the following year with similar results. Rosenstein and von Lichtenberg,[3] reported in the same year, similar work of their own at the Urological Congress in Berlin. For a time, little progress had been claimed until 1928, when Roseno[4] was perhaps the first to obtain any practical information by intravenous urography when he used a combination of urea and sodium iodide—$NaI.CO(NH_2)_2$—which he termed pyelognost. Although he was pleased with the roentgenograms obtained, he admitted enough severe reactions to make the latter a definite objection to its use. The following year[5] he reported progress in a presentation of his work at the

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Urological Congress at Munich, giving a complete report to date of his results, describing the methods employed. Other workers up to this time had been carrying out investigations in animals with the halogen salts with varied and rather unsatisfactory results.

Hryntschak at the same meeting, in discussing Roseno's paper, and later reporting his own work in 1929,[6] described his results in about two hundred animal experiments with a large series of iodine and bromine compounds, using as adjuvants to influence excretion as well as movements of the kidney and pelvis and ureter, atropin, pituitrin, urea, etc. He stated that, although he had been working on this problem for two and a half years previously, he had been able to obtain satisfactory pyelograms in but a few cases, but he was hopeful of perfecting his method. At this juncture, Swick[7] commenced his experimental studies with a compound described as N-methyl-5-iodo-2-pyridon, which had previously been synthesized by Binz and Räth, which contained fifty-four per cent of iodine and was found following animal experimentation to be excreted to the extent of about eighty per cent of its iodine content in the urine within sixteen hours. Nausea and vomiting, severe pain at site of injection and occasional diplopia were objectionable factors following its use in the human. Following this work, a compound having an iodine content of forty-two per cent which is readily dissolved in water, forming a neutral solution, was found to be less toxic, and to which these chemists gave the name of uroselectan. This work was carried out under the direction of Lichtwitz in Altona and von Lichtenberg at St. Hedwig's Hospital, Berlin. It is not within the scope of this paper to go into the chemistry of the different substances which led to the synthesization of the last named compound which has been designated as "iopax—sodium 2-oxo-5-iodopyridine-N-acetate — sodium 5-iodo-2-pyridon-N-acetate—$C_5H_3ION.CH_2COONa$," and which was recently approved by the council of Pharmacy and Chemistry of the American Medical Association.[8] Von Lichtenberg has continued his work in perfecting what he considers a more suitable compound and reported at the last meeting of the

Fig. 1. Hydronephrosis secondary to stone in ureter below pelvic brim.

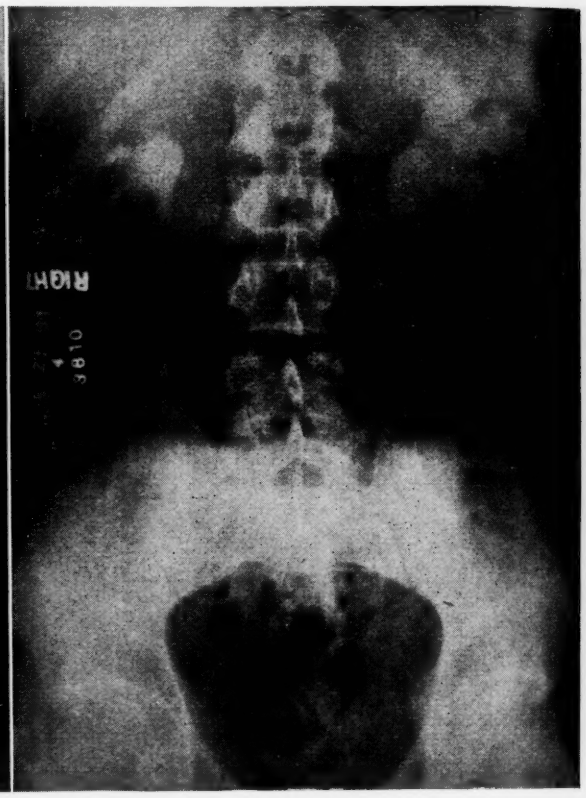

Fig. 2. Left hydronephrosis with normal right kidney.

British Royal Society of Medicine[9] five new contrast preparations for the first time. He favors uroselectan B (D40), one of the five, and states that it contains but one-fifth the amount of iodine of uroselectan or abrodil, that it can be administered in 15 gm. doses, dissolved in only 20 c.c. of water, and that greatest concentration of D40 occurs in thirty minutes after intravenous administration, whereas, the greatest concentration of the former two compounds occurs in from forty-five minutes to one and one-half hours.

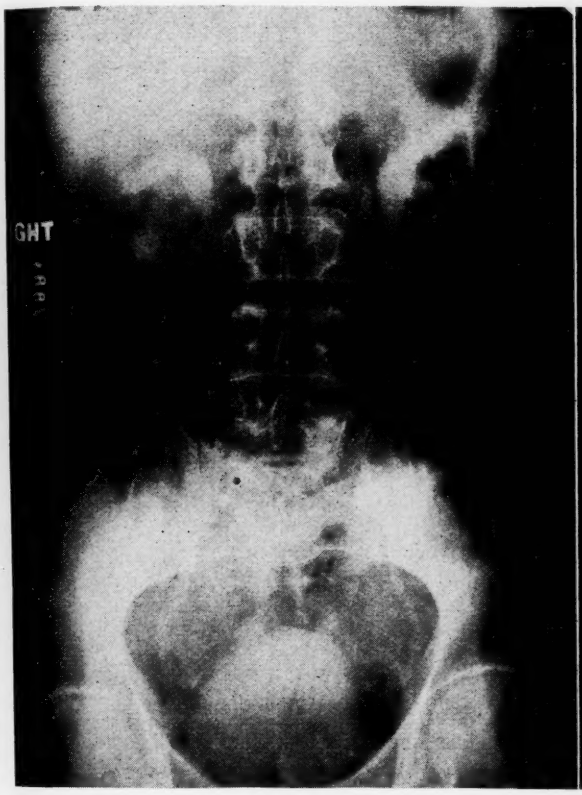

Fig. 3. Bilateral pyelonephritis with double right ureter.

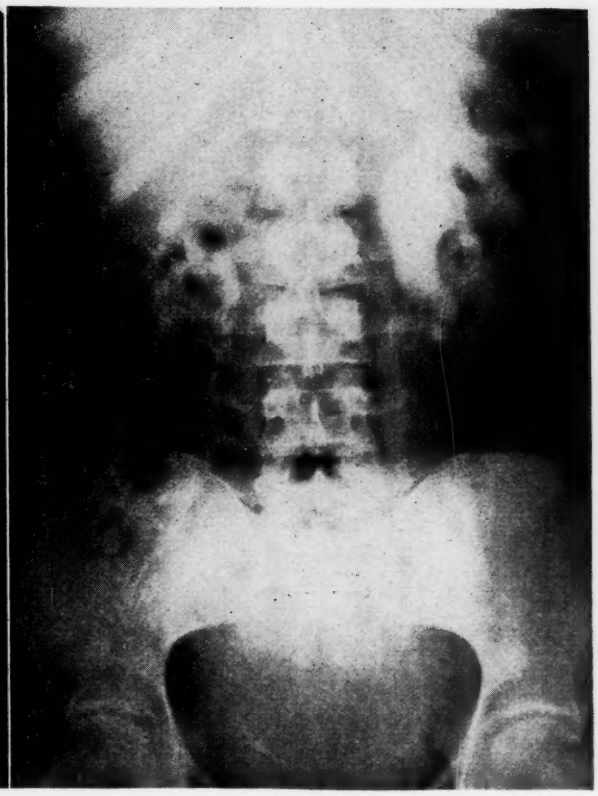

Fig. 4. Hydronephrosis with secondary uereteral angulation.

Many advantages are apparent in the use of excretion urography, the chief desideratum being the absence of the ordeal of retrograde pyelography, more accurate studies of the dynamics of the urinary passages without distortion from over-distention of the renal pelvis and ureter, or reflex inhibition of secretory function of the kidney. Simultaneous excretory function of the kidney with urography may also be carried out. This was done only in a limited number of cases in this series and will not be considered here. With many writers claiming most unusual advantages of intravenous urography, it became at once apparent that thorough trials should be given the least toxic of these compounds and urologists and roentgenologists have co-operated to the extent that a fair estimation of the value of the compounds on the market can now be made. The contra-indications of excretion urography are chiefly: Severe damage to the kidney cortex as revealed by urea retention, phenolsulphonephthalein excretion, and poor concentrating power of the kidneys or advanced pulmonary or circulatory disease. Tuberculosis and thyrotoxicosis are still under discussion as to their contra-indication for the use of such high iodine containing compounds. Although the iodine is excreted in pure form by the kidneys, leaving but small amounts in the body cells, there is still doubt as to the real damage done in the last named diseases.

METHOD OF ADMINISTRATION

The usual dose of iopax used for an adult was 40 grams. This was given in 100 c.c. of double distilled water at body temperature. Previous to administration, the patient was prepared as follows: (1) Com-

pound licorice powder, one ounce at 5 p. m. the day before examination. (2) Cleansing enemas in the morning. (3) No breakfast. No fluids. (4) Eserine one-fiftieth grain, one-half hour before giving uroselectan. (5) Uroselectan injected very slowly at body temperature intravenously over a period of fifteen minutes into the median basilic or cephalic vein.

Fig. 5. Contracted bladder with calculus, nephroptosis, bilateral pyelonephritis with stasis.

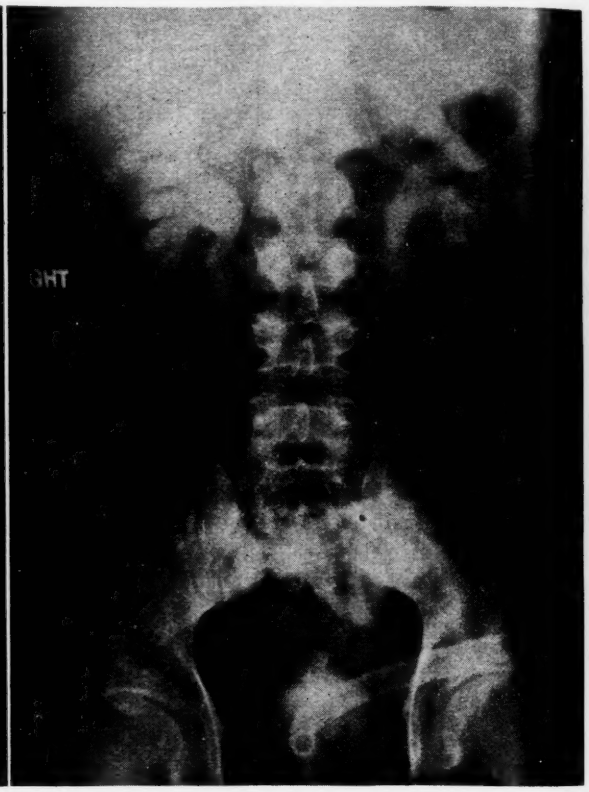

Fig. 6. Bilateral hydronephrosis and hydro-ureter.

The first roentgenogram was made fifteen minutes after completion of injection; the second, thirty minutes following; the third, one hour following; and the fourth, one and one-half hours following. It was found that the second roentgenogram, or the one made thirty minutes following completion of injection, or forty-five minutes after commencing injection, was the most satisfactory for X-ray diagnosis; the third, next; the first, next in value; and the fourth the least useful.

REACTIONS OBSERVED

Following administration, symptoms were noted in their order of frequency as follows: Dry mouth 35, generalized body warmth 28, pain right arm or elbow or both 25, localized sensation of warmth at elbow and arm 15, nausea 10, vomiting 3, urticaria 3, pseudo-ulnar palsy one day duration 2, dizziness 1. No alarming reactions were noted although in three cases severe nausea and vomiting caused considerable discomfort to the patient. Most of these reactions were frankly transient.

In thirteen cases of this series, evidence was absolutely nil as regards the upper urinary tract. In six of these cases, poor cystograms were also obtained. In nineteen cases, we have graded our results as indeterminate. In these cases, although an outline was obtained it was never satisfactory for a complete visualization of the urinary tract, and although it was helpful in establishing a diagnosis, the roentgenograms obtained were not highly satisfactory. In eighteen cases the results were highly satisfactory and good evidence of the kidney function as revealed by the roentgenograms, dynamics of the kidney pelvis and ureters and bladder were complete. Of course, there must be no denying the fact that any of the media now in use injected through a ureteral catheter can in every case give perhaps a more clear and dense shadow than

any excreted chemical, at least to date. At this juncture, we wish to state that intravenous urography can not and probably never will compete with the retrograde pyelography in regard to density of shadow and clearness of outline, but it does give great promise of advancement in our X-ray studies of the physiology of the kidneys. Many phases of systole and diastole may be observed through this method which are missed in the former.

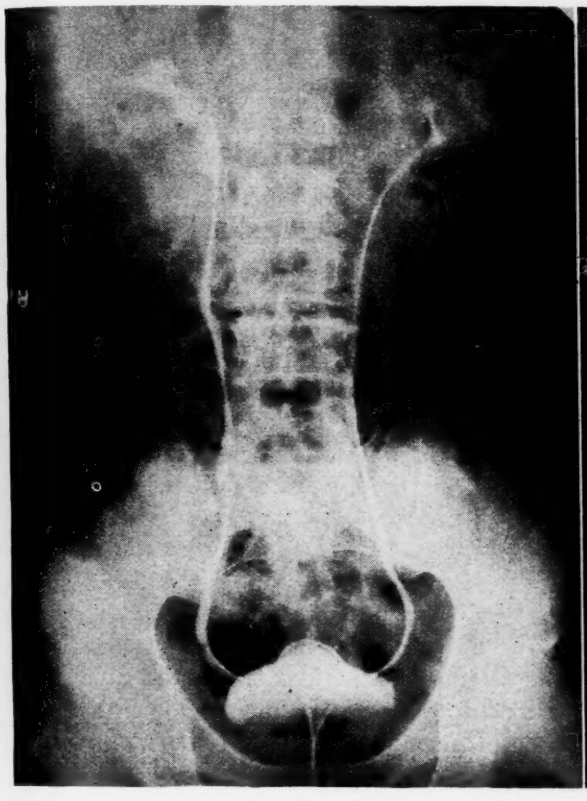

Fig. 7. Kidney tumor demonstrated by retrograde urography following failure of iopax.

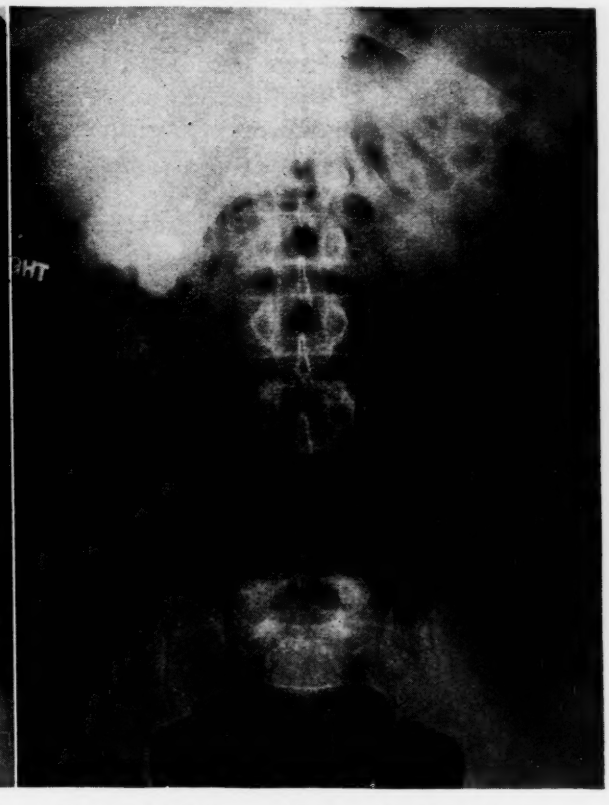

Fig. 8. Calculus pyonephrosis; calcified gland, course of normal left ureter.

One is frequently requested to carry out such procedures with the hope that complete diagnosis, or at least a complete roentgenographic diagnosis, of the case may be obtained, only to find that, after all, cystoscopy, with the orthodox but often painful retrograde pyelograms, must be done before studies are completed. Commercial laboratories, too, in their enthusiasm, have inferred that this method of urography has reached a highly diagnostic value when used routinely, with the same effect. As shown by recent research, this type of visualization is still in an evolutionary stage and still greater assistance in urographic diagnosis is to be hoped for as time goes on. At the present there is a place for such studies and when positive results are obtained they are frequently valuable. Disappointing results, apparently those of a negative character, certainly have been encountered when this method is used as urographic routine.

In cases of intolerant bladder, tuberculous cystitis, obstruction of the ureter from impassable stricture or stone, extensive bladder tumor, or lower obstructive uropathies, as prostatic hypertrophy, carcinoma, urethral stricture, etc., and in cases where vesical reimplantation or sigmoid transplantation of the ureter has been done. It is often of value where a nephrogram is desired as in renal cysts, and frequently in kidney tumors, although the cases of such growths were not great enough in number in this series to make deduction possible. The best films in this series were obtained in cases where stasis was present, either from atony or mechanical obstruction.

In thirty-six of our cases, retrograde pyelograms were, of necessity, carried out to complete studies for diagnosis. In seven cases where there was definite obstruction from stone or stricture of the ureter, satis-

factory urograms were obtained. In thirteen cases of stasis with or without stone, urograms were also valuable. In two cases in this series, advanced degenerative tissue changes rendered the secretory portion of the kidney inert and the negative findings were helpful.

In thirteen cases in which the observations were of absolutely no assistance, they were diagnosed as follows: Normal 5, pyelonephritis 3, kidney tumor 2, perinephritic abscess 1, renal tuberculosis 2. Perhaps larger doses would have improved results.

The final diagnoses in this series after studies were completed, were as follows: Normal urinary tract 11, double pelvis and ureter 3, polycystic kidney 1, vesical calculus 2, cystitis (acute and chronic) 10, contracted bladder 3, chronic pyelonephritis 10, hydronephrosis 9, renal calculus 5, ureteral calculus 6, carcinoma of bladder 1, tuberculosis of kidney 3, tuberculosis of bladder 2, ptosis (marked) 3, bladder diverticulum 2, ureteral stricture 3, kidney tumor 2, perinephritic abscess 1, pyonephrosis 2, traumatic atresia of ureter 1, renal aplasia 1, tuberculous perineal fistula 1, hypertrophied prostate 6, carcinoma of prostate 2, hydro-ureter 6. Thus it will be seen that a total of ninety-six pathological conditions were diagnosed in this series of fifty cases. In the group in which satisfactory X-ray data were obtained without retrograde urography, the following diagnoses are given: Normal 3, double pelvis and ureter 3, polycystic kidney 1, vesical calculus 2, contracted bladder 3, chronic pyelonephritis 3, hydronephrosis 7, hydro-ureter 4, renal calculus 5, ureteral calculus 5, carcinoma of bladder 1, tuberculosis of kidney 1, bladder diverticulum 2, ptosis (marked) 2, pyonephrosis 2, renal aplasia 1. This group illustrates the higher incidence of diagnostic shadows in cases of stasis from any cause. Thus, roentgenographic evidence was incomplete in a total of fifty-one conditions.

The unfairness of attempting to reduce to an arithmetical proportion of 45/96 is at once apparent and in this series such a method of arriving at a rational evaluation is mentioned only to be condemned. It is not so much a question of which is the better method as it is to select the proper cases in which to employ either method or both. Further use alone can establish the place for this very useful addition to urological diagnosis.

CONCLUSIONS

1. Dynamics of the urinary tract cannot be satisfactorily studied without excretion urography. Distortion is reduced to a minimum with this method.
2. Commercial laboratories should not attempt to sell this method as an all-diagnostic procedure; it is but one of the modi operandi of urological diagnosis.
3. Retrograde pyelography is not to be supplanted by, but supplemented with, excretion urography. Each has its pitfalls and strongholds.
4. Excretion urography is still in the process of experimentation, but even at this early date has proven to fill a place where the retrograde method cannot be carried out for reasons herein enumerated.
5. Excretion urography has come to stay and is a step forward in special and routine urological studies. Its administration is relatively harmless when cases are properly selected.

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PEPTIC ULCER: EXPERIENCES IN THE TREATMENT OF 108 CASES*

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This review is based on our experience in the treatment of 108 patients with gastric and duodenal ulcer. Half of them were observed at the North End Clinic, the remainder in private practice. Eleven were classified as "Results Inconclusive." (*See* VI in Table II). Of the ninety-seven cases, all followed by personal contact, two-thirds were observed from one to seven years, frequently through several recurrences and one-third were followed from four months to one year. The clinic cases were studied individually and were reviewed at a weekly conference participated in by internist, surgeon, roentgenologist, and dietitian. An attempt was made at co-operative management, and the decision as to medical or surgical care was generally a joint one. As nearly as possible whatever facilities were necessary were available, and a long time follow-up policy was maintained. Only positively diagnosed ulcers are included. Naturally many of these cases had treatment of various sorts, including operations, prior to coming under our care. The entire life cycle of the ulcer, not alone the period of our observation, has been studied.

TABLE I
General Data

			Jewish	71	
Gastric	26	Male	83	Non-Jewish	
Duodenal	82	Female	25	White	26
				Colored	11
	108		108		108

Age at Onset of Ulcer	No. of Cases	Duration of Ulcer on Admission	No. of Cases
12 years	1	Less than 1 year	17
15-19 "	9	1-2 years	6
20-29 "	34	2-5 "	16
30-39 "	32	5-10 "	25
40-49 "	22	10-20 "	32
50-59 "	8	20-30 "	9
60-69 "	2	30-40 "	3
	108		108

It will be noted from Table I that peptic ulcer is frequently found in young people. Our earliest case commenced in a patient when he was a boy of 12, shortly after starting work in a coal mine. Significant to us is that he was subject to the stresses of adult existence. Noteworthy are the number of cases in which ulcer symptoms appeared for the first time after age 40, a factor which led to confusion with gastric carcinoma in several cases. It is apparent that if gastric symptoms first appear after age 40 no conclusions can be drawn from the age alone as to whether the disease is ulcer or cancer. Before age 40, of course, ulcer is much more frequent.

Some idea of the life cycle of ulcer cases can be obtained from a glance at the figures showing the duration of the ulcer on admission. Over 40 per cent of the patients have a history of more than ten years of ulcer symptoms before coming to us.

TABLE II
Results of Treatment

I. Ambulant Treatment. Uncomplicated cases.
  1. Excellent response to one mild ambulatory regime. No recurrences (followed 1-3 years) 5
  2. Good response to two ambulatory treatments (followed 3-5 years). One case had appendectomy. 2
  3. Fairly good response. Repeated and prolonged ambulatory treatment necessary to control recurrences (average 1-2 yearly) 33
  4. Concomitant hyperthyroidism. Good response of ulcer to ambulant treatment.... 3

II. No Response to Strict Ambulatory Treatment. Uncomplicated cases.
  1. Bed rest. Excellent response. No recurrences 0
  2. Bed rest. Good response. Mild recurrences, subsequently relieved by ambulant treatment 8
  3. Bed rest. Poor response. Definite recurrence 5
     3 refused operation.
     2 operation contraindicated.
  4. Bed rest refused..... 2

III. Hemorrhage.
  9 cases (2 included in operated group) 7
  1. Responded to bed rest.....6
  2. Responded to surgery.....2 (included in surgical figures)
  3. Died (massive hemorrhage)....1

IV. Obstruction.
  8 cases (2 included in operated group) 6
  1. Good response to medical measures 4

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2. Only fair response to medical management. Refused surgery 2
3. Obstruction at stoma (gastro-enterostomy). Fair response to medical treatment 2

V. Operations.
(Number of patients) 26
1. Perforations (all sutured only) 6
Excellent response, no recurrence 3
Fair response, may need further operation 2
Died 1
2. *Gastro-enterostomy as first or only operation 16
Excellent response (no recur. 2 yrs., 10 yrs.) 2
Fairly good response (no recur. 1-2 yrs.) 3
Fair response (recur. after 3-7 yrs. freedom) 2
Recurred within one year 7
Died 2
3. *Other operations as first operation 4
(Cauterization, gastric resection, 2 Devine operations).

VI. Results Inconclusive 11
1. Too recent to classify 4
2. Follow-up inadequate 5
3. No conclusions drawn 2

Total cases 108

It will be noted from Table II that only 5 cases of the 108 had an excellent response to the first ambulatory treatment. In this small number the symptoms disappeared in short order, the patient resuming a normal diet, minus spices, with no recurrences in the one to three years they were followed. The general impression among the medical profession is that this is a much larger group, and it is only after having followed a number of these cases for a considerable period of time that one can appreciate how few really are permanently cured.

The largest group (33) is listed as giving a "Fairly Good Response" to treatment. In these cases a strict ambulatory regime caused rapid disappearance of symptoms. In a few months or longer the patient was back with symptoms, generally of lesser severity because he had already started treating himself. After a few weeks of restricted diet, perhaps with the addition of powders and antispasmodics, he again was symptom-free. It is this type of case to which Einhorn (1) refers when, recognizing the seasonal nature of the recurrences, he tries to have the patient restrict his diet two to three weeks before the expected attack in the spring or fall. Similarly Kantor (2) states, "We do not tell the patient he is cured, but ask him to live carefully and report to us at the first sign of recurrence." These recurrences are part of the life history of the disease, and for the time being, or until such time as our therapy shall be based upon etiology rather than on symptoms, we will have to accept them as such.

Bed rest was advised in all cases where symptoms did not disappear on ambulatory management, or where the symptoms were so severe that ambulatory treatment was not attempted, and in the presence of complications. All cases severe enough to require bed rest had at least mild recurrences on subsequent ambulatory treatment. The additional five cases with definite recurrences of moderate to severe grade after bed rest treatment, and who were not operated, were to our minds candidates for surgery. Surgery was refused in three of these cases and contraindicated in the remaining two.

We are not under the impression that bed rest affects the life cycle of the ulcer. It is, however, a more positive method of initiating a remission than ambulatory treatment.

MEDICAL REGIME

Our ambulatory management is as follows: For the first two weeks the patient is given 1 glass of milk every two hours on the even hour. In addition at 8 A. M., 12 Noon and 6 P. M., he is allowed any of the following: soft boiled or poached eggs, toasted or slightly stale white bread or Uneeda crackers, cereals, as rice, farina, corn flakes, puffed wheat, puffed rice, custards, rice or tapioca pudding, or ice cream. On the odd hour he takes a powder consisting of 10 grains of calcium carbonate and 10 grains of sodium bicarbonate. The last feeding is at 8 P. M., the last powder on retiring. Extra powders are allowed if night pains occur, in which case a double or triple dose of powder is taken on retiring. The average patient is symptom-free before the end of the first week on this regime. Pureed vegetables are added during the third week, and tender meats and cooked fruits during the fourth and fifth weeks. The powders are then omitted for one week, following which the patient is placed on a fairly generous bland diet, with three extra feedings and four or five powders daily for a period of three to six months. Powders are omitted one week in every five according to the original Sippy formula.

A common fault in the management of

*Secondary operations are not included in this table.

ulcer is the feeling that the dietetic-alkali regime is the beginning and the end of treatment. Even intelligent patients who have had the disease for years will correlate the recurrence with the ingestion of some article of food, without recognizing that recurrences are rather the rule, even with strict dieting, than the exception Diet is, of course, important, and in some cases no other measures are necessary, but for cases which tend to recur at intervals other methods of treatment must be tried.

The eradication of foci of infection is all-important. The foci about the teeth and upper respiratory tract are easily taken care of in private practice, but many of the clinic patients are loath to have teeth removed unless money for plates is available, and many are uncoöperative in the removal of infected tonsils, etc. The removal of foci of infection in the gastro-intestinal tract is a vexing problem. A diagnosis of chronic appendicitis, based on X-ray signs and moderate tenderness over McBurney's point on physical examination does not always convince the patient (nor for that matter the physician) that appendectomy should be done.

In this series 23 patients had appendectomy, three being done before the onset of ulcer symptoms, the remaining 20 after the onset of ulcer symptoms. Of these latter, in only two instances were the ulcer symptoms alleviated for any considerable time (both over four years). Three patients had gall bladder operations after the onset of ulcer symptoms, with no influence on the course of the disease. Even if all ulcers were due to infection, these figures demonstrate that the appendix, for instance, is only one of the possible sources of infection. Relief of ulcer symptoms cannot be promised from appendectomy.

The care of the bowels is especially important in peptic ulcer. The patient often claims that he has gotten no relief from the diet-alkali management, when on close questioning the ulcer symptoms have disappeared, to be replaced by symptoms referable to the large bowel. We have discontinued the use of the Sippy No. 1 powder because the magnesia often sets up a colonic irritation. We rely on large doses of mineral oil, frequently repeated, to care for the almost inevitable constipation occurring early in the treatment.

The relaxation treatment, predicated on the theory that over-stimulation of the sympathetic nervous system causes vascular spasm followed by peptic ulceration, is worthy of thorough and persistent trial. The measures used are antispasmodics, as atropin sulphate, which we give in full dosage; general nerve sedatives, such as luminal, given regularly in adequate dosage; heat, as the full hot bath several times daily, the electric pad or hot water bottle, hot fomentations, and infra-red or ordinary lamp treatments. Diathermy, if administered frequently, should be of value here, but we have had no experience with its use. It is important to interdict the use of coffee and tobacco because of their clinically proven effects in producing symptoms. It is valuable in some cases to explore the patient's psyche for possible emotional disturbances causing a "chronic tensional state" (August, 3), and if found an effort made to adjust the difficulties. In two patients, adjustment of economic situations through a social worker initiated remissions in otherwise intractable cases.

Concomitant hyperthyroidism should be kept in mind. Three cases in our series preceded or accompanied mild hyperthyroidism. In these cases, control of the hyperthyroidism is an essential part of the therapy.

When symptoms persist despite accurate management, especially if night pains occur, aspiration of the stomach before retiring is indicated. We have frequently carried out this treatment on patients at home, and although it is time-consuming, the results are sometimes very gratifying. There is no single measure more successful in the treatment of night pains, and often several nightly aspirations will initiate a remission.

During the past few months one of us has used bacterial vaccines in about 25 cases included in this study This method of treatment has proved of suggestive value, in some cases initiating remission where everything else has failed. No definite conclusions can be drawn as yet owing to the brevity of the follow-up period and irregularity of the response.

Our routine bed rest follows the usual restricted Sippy regime, the limitations and duration of the initial semi-starvation depending upon the severity of symptoms and the response to treatment. Some cases have responded after prolonged rest in bed where

2 to 3 weeks of such treatment seemed to fail. A prolonged modified ambulant management always follows bed rest.

In explaining to patients the rationale of the diet-alkali regime there is at present a tendency unconsciously to over-emphasize the gastric acidity in relation to the "cure" of the ulcer, to the exclusion of other etiological factors. Of course this leads to better coöperation with the diet on the part of the patient, but the physician must be ready with another line of treatment if the first fail. Perhaps Sippy has diverted us from finding a cure for ulcer by his insistence on the alkaline formulæ. It is necessary to be persistent with the medical management, to "tire the ulcer out" if possible. We do not agree with the opinion expressed by some surgeons, who advocate bed rest if ambulatory treatment fails, and if the bed rest treatment does not relieve the patient in two or three weeks that operation is indicated. Medical treatment should be persisted in short of the presence of a complication, such as perforation, high grade obstruction unrelievable by medical means, repeated hemorrhage, and persistence of pain (not distress) despite repeated, prolonged and careful medical treatment There were a number of highly instructive cases in which surgery was advised for pain continuing despite prolonged bed rest treatment, but refused by the patient, and these patients have a minimum of symptoms at present, comparing favorably with much milder cases in whom the question of surgery never arose.

Pain persisting over prolonged periods despite bed rest treatment, or pain responding to bed rest treatment but recurring on ambulatory treatment, and of such severity that it interferes with the carrying on of the patient's ordinary activities, is an indication for surgery Long continued mild distress which does not prevent the patient from carrying on his usual occupation is in itself no indication for operation. It is our experience that by persistence and by changing the method of attack a remission can often be initiated in these persistent cases.

Confusion with carcinoma is at times very real, both clinically and at operation. In three instances in this series it was impossible to resect the ulcer, and in these cases the only grounds for excluding carcinoma is that the patients are alive and well some years after operation.

HEMORRHAGE

Nine of the 108 cases had one or more severe hemorrhages. Of the seven who were given medical treatment (five by us, two elsewhere) five are well today and have been symptom-free for the past year or more. One patient died recently of cerebral hemorrhage. Another, a colored boy age 17, came under our care in a moribund condition after repeated hemorrhages over a period of 4 to 5 weeks, and died a few days later. Autopsy showed a small penetrating ulcer on the posterior wall of the duodenum. As pointed out by Crohn (4) there is a well-known small percentage of deaths from hemorrhage regardless of the type of treatment used, occurring usually as the result of an initial brisk hemorrhage.

Though repeated hemorrhage is ordinarily considered an indication for operation, one of these patients had 4 hemorrhages, the last one 15 months ago; another 3, the last one 3 years ago. One patient had gastro-enterostomy after recovery from the second hemorrhage, and has been well 10 years. Another was operated upon after three weeks of mild continuous oozing despite careful medical treatment, and has been well 6 months.

Almost half of our hemorrhage cases were women, whereas the percentage of women in the entire group is only 23 per cent. This preponderance of hemorrhage cases in women is in agreement with observations already recorded. Crohn (4) states that whereas ulcer is five times as common in the male as in the female, hemorrhage is perhaps twice as frequent in females as in males.

OBSTRUCTION

We have had eleven cases in which obstruction supervened. All except one were males, and most of them had symptoms ten years or longer. Two were obstructed at the gastro-enterostomy stoma, the remainder at the pylorus.

Of the eleven cases, three are still under treatment, hence classified under "Results Inconclusive" (Table II). One of these was a high grade obstruction which required gastro-enterostomy to prevent starvation. The eight cases followed over four months were all treated medically, five with no recurrences in the follow-up period, the re-

maining three with recurrence of obstructive symptoms from time to time. In all three cases surgery was advised, but refused because of the relative comfort experienced when the stomach again compensated. We feel that this relief may be temporary.

The indispensable tool in this complication is the large sized stomach tube. Some of these patients become very adept in using it and we have had patients repeatedly pass it on themselves at home, with good results. Hospital management is preferable, however, as fluid intake and output can be more accurately determined and repeated observations of the non-protein nitrogen and sodium chloride content of the blood made.

Obstruction, even of high grade, is not in itself an indication for surgery unless not relievable by medical means. Sippy demonstrated that 90 per cent of the cases of obstruction were associated with edema of the mucosa and spasm of the sphincter, rather than with scar, and could be relieved by keeping the stomach empty and by frequent small feedings.

SURGERY

In addition to the operations listed in Table II, nine secondary operations were performed, making 35 operations performed upon 26 patients. All except one were males, and 80% were over 40 years of age. Ten operations on nine patients were performed by us, the remainder elsewhere, some by nationally known surgeons. Of the 16 patients who had gastro-enterostomy, only three were done by us.

In the table, the results in the perforations are self-explanatory. Two had very slight symptoms previous to perforation, three had long ulcer histories but were not under treatment for ulcer, one perforated while under our care—having repeatedly refused operation. Of the gastro-enterostomies, it will be noted that one case recurred three years, another seven years, after operation. Similarly one subtotal resection for duodenal ulcer developed a marginal ulcer after 5 years of complete freedom, and the one local operation (cauterization of a duodenal ulcer in a woman aged 40) recurred 3 years and again 5 years later.

It should be realized that several cases in this group represent the stubborn residue of ulcer patients who did not respond to ambulatory or bed rest treatment. The seven intractable cases (listed as recurrence within one year) represent the ulcer diathesis. Observing these patients over several years truly gives one the impression that in some individuals ulcer recurs no matter what is done. The secondary operations included: unhooking, resection of stoma, liberation of adhesions, subtotal or further resections. Two patients had four operations each over periods of 4 and 14 years respectively; one of these has been symptomfree for 3 months (the longest period in 4 years observation) following vaccine therapy, the other has recently had severe obstruction which for the time being has responded to repeated aspiration and frequent feeding.

In summarizing this surgical experience two things stand out: (a) unless patients are followed for several years it is impossible to know what has been accomplished; (b) there is no such thing as one standard operative treatment for peptic ulcer. Simple closure of a perforated ulcer may cure, or cure may be obtained after further dieting, or a second operation be necessary. Gastro-enterostomy is a good operation in some cases; it may require subsequent dieting to control symptoms; it may bring considerable relief with little risk, to an ulcer high on the lesser curvature.

The management of gastro-jejunal and recurrent ulcer is difficult. If the operative treatment fails to relieve the patient and simple dieting still leaves him in pain, three therapeutic possibilities are available: (1) Undoing or redoing operations as unhooking of a gastro-enterostomy, resection of a marginal ulcer, local resection of the ulcer, etc.; (2) more radical surgery, as subtotal resection, Billroth I or II; and (3) prolonged medical treatment. We have been surprised to note the relief obtained at times in these secondary complicated cases by careful medical care persisted in over weeks or months, and also to note the uncertainty with which any operation for ulcer is followed by permanent cure or arrest.

In handling recurrences after operation, our present attitude is an inclination to give the medical treatment of ulcer as wide lattitude as possible, reserving further surgery only for those cases where this prolonged treatment fails, where hemorrhage or obstruction is not relieved, or pain persists.

No operation is finished without postoperative control, and no plan of therapy is

complete which does not include periodic follow-up, for it is by this means alone that one will know what has been accomplished.

SUMMARY

1. Our experiences with 108 gastric and duodenal ulcer cases, followed by personal contact for rather long periods, is recorded.
2. Ulcer cases often have their initial symptoms after age 40, a fact which should be kept in mind in the differential diagnosis from carcinoma.
3. The importance of other factors in treatment than the usual diet-alkali regime is emphasized. Among these are the removal of foci of infection, relaxation, bed rest, nightly aspiration, and bacterial vaccines. Persistence in medical treatment in refractory cases, with changing the method of attack is advocated.
4. The life cycle of an ulcer is characterized by frequent recurrences. The largest group of ulcer patients are those who respond to repeated ambulant treatments.
5. Medical treatment should be persisted in short of the presence of complications, as perforation, high grade obstruction not relievable by medical means, repeated hemorrhage, or persistence of pain interfering with the patient's occupation.
6. There is no single operation for ulcer, but each case presents an individual problem. Recurrences may take place after any type of operation.
7. In the management of secondary and recurrent ulcers, prolonged medical management, if possible, is preferred. A certain small number of cases, representing the so-called ulcer diathesis, are apparently refractory to any present day therapy, either medical or surgical.

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THE DAMAGED HEART IN INDUSTRY*

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My object in presenting "The Damaged Heart in Industry" is to indicate the possibility of engaging workers with subeffective hearts for productive positions in industry. I have approached this subject not with the idea of discarding existing knowledge of cardiac handling, or with a purely idealistic attitude, but with the hope that I can attract attention to the view that all damaged hearts are not necessarily excluded from usefulness in active manual work.

At this period of wide-spread unemployment, we may be prone to set our physical standards even higher than normally, thinking that this is a splendid opportunity to weed out, clean house, and make our physical selections absolutely one hundred per cent. Each physician will, of course, follow the dictates of his judgment in this matter. Allow me to suggest that many likely employes thus rejected may be future social burdens, or will drift to those employers who are not protected by medical direction and advice in employment, and be placed on work to which their physical condition is entirely unfitted. The same result is attained by either method.

The management and handling of a cardiac case is not within the logical scope of a physician in industry, but should be under the treatment or observation of the employe's personal physician. That phase of damaged hearts will not be considered in this paper.

When contemplating the pathological heart, our medical minds visualize a patient wholly or partially decompensated either in bed or otherwise incapacitated. It is quite possible that these people have not reached their present state by over-exertion, but by some over-indulgence or poisoning by toxic

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gases, metals or dusts by a recurrent infection. Let us consider the ambulatory cases which, without a physical examination, would pass employment requirements and thence to work. Let us say as a barrier to the physically defective and a protection to the applicants, present employes, and employer, a physician is employed. To him come the applicants, eager, often unwashed hordes. Here is an opportunity to cast away hundreds of potentially excellent, steady, conscientious producers, through inexcusable ignorance. An adventitious sound is heard in, or about, the heart. Thumbs down! Why? (1) Because there is something, somewhere wrong with the applicant's heart or circulatory system. (2) The industrially disinterested physician's knowledge ends with his immediate surroundings. He knows that somewhere outside the partitions in that crashing, banging, clanging, bumping turmoil is work. Damaged heart plus work, to his mind, equals loss of time, if not catastrophe. Having no knowledge of the nature of work and varieties of work to be done, he takes no chances. He visualizes syncope, accident. He visualizes compensation suits. He dares not risk criticism. The applicant is rejected. Applicants may present disturbances ranging from symptomatic tachycardia, bradycardia or arrhythmia to what we see in hospitals in advanced forms, organized structural changes.

How are we going to differentiate, select and decide to place, or not to place? (1) By having the authority to dictate the policies relative to health placements. (2) To have fixed policies. (3) To be able to diagnose and differentiate. (4) To have a complete knowledge of the nature of the work that the applicant is selected to do and what he is apt to be called on to do in his department.

Many cases of apparently damaged hearts give only temporary symptoms; so temporary that one examiner may hear an adventitious sound and the other not. In other words, it has disappeared, showing it to be innocuous. Time should be allowed to take a thorough history of all cases presenting heart lesions. It is the fair thing to do for both applicant and employer. Question and surmise past history. Delve into habits, into previous acute illnesses, into history of recurrent rheumatic attacks, into the history of old scars. Illuminating pertinent facts can thus be elicited. As you know, tachycardia is frequently produced by temporary nervousness, shock, fright, excitement, extrinsic stimulæ. By ingestion of a tasty but not wisely chosen meal. Paroxysmal tachycardia, which is no more or less than an example of physics—the relative depletion of the arteries through dilatation of the veins; this condition has been termed "arterial anemia" by Hirshfelder.

Perhaps too much concern is felt by the examining physician in industry regarding the arrhythmias. True, if these are associated with grave structural changes there is little to do but advise the applicant that his physical condition is not compatible with the work for which he has applied. Return him to the employment office for re-consideration or, if he is entirely industrially unfit, refer him to a medical source for advice. However, if an arrhythmia can not be connected with a structural change, either in heart or arteries, it is a social and economic waste to reject the applicant. Sinus arrythmias are physiologic in most cases. Then there is the little sound, which has been run to earth and christened systolic whiff, so fleeting that it is frequently not detected, and so unstable that perhaps no two examiners within the same day could hear it.

Even the most conservative insurance companies are willing to accept certain arrhythmias without premium rate increase up to the age of thirty-five. Six extra systoles per minute are also allowable to the age of thirty years.

The labor referred to has been the manual type. Just how much psychic effects bear on cardiac conditions in industry is an interesting study in itself.

Example.—A man, aged 28, with a rather marked mitral regurgitation, but little hypertrophy (which is not usually a good industrial risk), occupied a position as an electric spot welder. This is a rather active but not an excessively heavy job. He followed this work for four years without ill effects. He was attacked with pneumonia. He fully recovered with but little trouble. His heart displayed no further changes. It was felt to be better judgment to transfer him to a semi-clerical job. He had originally accepted manual work because of the opportunities of making a greater amount of money. He was placed as a rate setter, which involved no manual work but did require considerable nervous tension and irritating contacts. At the end of a year this man developed a marked decompensation. He was now compelled to quit work entirely. I do not believe his attack of pneumonia bore any part in his breakdown. The nervous tension was undoubtedly the cause.

For convenience in forming intelligent policies for definite decisions and for stated reasons to support the policies, it is frequently helpful to have fixed groups with which to classify the cardiac cases. There is perhaps no easier pathologic condition of the body than the diseased heart, to classify in definite groups. The heart in its structure and specific functions is so nearly akin to the finely balanced machinery of industry that it should strike a strong chord in the mind of the physician of industry.

While there is no pretense made to advise the remedial measures to be followed in the treatment of a damaged heart, let us remember that an attempt to put ambulatory cardiac cases at entire rest and allow the musculature to become inert, must be precluded as a therapeutic error. The heart does not differ from other muscular structures and exercise keeps the heart and circulation at their respective proper tone.

I would head the grouping with the classification broadly labeled—"potential cardiac cases." Under this heading come those who have suffered attacks of rheumatic fever, tonsilitis, swelling of the maxillary or sublingual glands, carious teeth. These are potential causes which damage hearts to an unknown extent and severity. Personally, I feel that these cases should not become employes of any kind until the focus of infection is found and removed. They are without present heart disease symptoms and are admitted as such. In six months' time, unless absence caused by a recurrence of the absorption of the infection brings them to the attention of the physicians, they may exhibit a marked myocarditis or endocarditis, which would continue until a death or hopeless destruction of heart structure would bring attention to the sufferer.

The second grouping brings within its scope all functional murmurs, tachycardia of extrinsic origins, and those having extracardiac origins, except hyperthyroidism, arrhythmias, functional in origin. This class could be safely dismissed from the list of damaged hearts and an unlimited work placement made.

The third grouping.—Applicants under the age of forty years with no asthenic appearance, fully compensated, with a sense of well being, without irritability, demonstrating a persistent mitral systolic murmur without hypertrophy or with slight hypertrophy, with lesion quiescent and absence of recognizable focal infection. These are normal risks and can receive unlimited placement if periodically observed.

The fourth grouping.—Chronic myocarditis with hypertrophy. This group deserves selected unlimited placement with periodic observations, especially relative to degree of cardiorenal vascular disease. This disease is slowly progressive even under normal labor strain, and the blood pressure and quantity of albumin in the urine is the safety factor. Physical examination of these employes should be made at least twice yearly.

Fifth grouping.—Aortic types. Of course, an applicant presenting an aortic lesion is rightfully considered with seriousness by any medical examiner. However, an aortic lesion with hypertrophy and fully compensated, can receive consideration of limited employment. Partial sitting positions, inspection of small articles, grinding pens, soldering radio parts, door men, packing small articles, packing cakes and biscuits, gluing small articles, measuring and weighing articles which, if large, require no physical strain in handling, watchmen, if no climbing of stairs is involved.

Sixth grouping. — Cardiac insufficiency cases of any type should, perhaps, not seek manual labor. They are usually accompanied with a mild decompensation and are inclined to rapid degeneration under the stress of physical activity.

Having somewhat arbitrarily classified the cardiac conditions that may cause us to pause, ponder and flounder, we can now, with assurance, feel that we have our factors and will adhere to them.

Age must be one of the deciding factors in the mind of the physician when faced with the decision of possible placement of a defective heart. Let us arbitrarily put the age limit of a new applicant with a damaged heart at forty. While cardiac diseases are quite numerous among children of school age, vascular diseases do not usually appear until the age of forty. The combination of a fully developed cardiac fault plus the degeneration of the vascular system would lead to unhappy results if subjected to physical overstrain.

It is particularly unfortunate that children of school age suffering from cardiac affections are enforced to long absences from their studies. Many are entirely unable to

finish their elementary education, making a technical education and training impossible, thus cutting off future opportunities of becoming draftsmen, engineers, and following other professional pursuits.

My opinion is not classed entirely on supposition or theory. It pleases me to have at hand some figures which without inflicting statistics may prove interesting. After the War, many men who had passed before me and my associates with affected hearts, both in industry and those whom we, as members of a Medical Advisory Board, had confidently passed as fit for selected service, came home. Those who did not come home did not die of their existing heart lesions. Those who returned were hard, hardy, well nourished men. They had accomplished hard marches, military life and routine. S. Neuhof gives considerable space in his book, "The Heart," to describing individual cases, their lesions, what duties they did with health ease, and express his opinion that damaged hearts, selected with prudence, can do their full share of productive work.

From 1920 to 1930, 129 cases of damaged hearts were productively employed at our plant in manual occupations. Forty-two cases of mitral stenosis without hypertrophy. Eighteen cases of mitral stenosis with limited hypertrophy. Fifty-seven cases of arrhythmias without apparent organic complication. Ten unclassified functional murmurs.

Three of this group have died of their cardiac conditions, although each one was on a selected work. In each case there were enough facts surrounding the deaths to fasten the exciting cause of death to indulgences outside their occupation. These cases will be recognized in a summary given immediately.

It is a frequently expressed thought, and one to which I give much credence, that no matter how carefully a group of applicants are examined, cardiac cases will slip in while others will appear quickly and subtly in robust employes. In the past seven years we have a record of 186 deaths occurring among our employes. Of this number, thirty-eight, or 20 per cent of all deaths, were due to some form of cardiac disease. These causes of death were frequently accepted from death certificates following sudden death and probably are in no degree absolutely correct. They are as follows:

2—Acute endocarditis	
12—Myocarditis	1—age group 30 to 40 5—age group 30 to 40 3—age group 50 to 60 3—age group 60 to 70 1—over 80
1—Chronic pericarditis	age group 50 to 60
2—Aortic regurgitation	age group 50 to 60
7—Acute dilatation	4—age group 40 to 50 3—age group 50 to 60
(Three of the seven died during the week end. One had been drinking.)	
2—Mitral regurgitation	1—age group 30 to 40 1—age group 50 to 60
2—Angina pectoris	1—age group 40 to 50 (Died during first known attack in our dispensary. Work not heavy.) 1—age group 60 to 70 (Died at home.)
2—Ruptured aneurysm	1—age group 60 to 70
8—All others	1—age group 20 to 30 1—age group 30 to 40 4—age group 40 to 50 2—age group 50 to 60

The known causes of the other 148 deaths and against these thirty-eight heart deaths, were:

Due to pulmonary conditions	47
Due to diseases of abdominal viscera (except cancer)	19
Due to diseases of renal system (except cancer)	5
Due to cerebral hemorrhage	16
Due to general paresis	5
Due to diabetes	2
Due to cancer and other tumors—all parts of the body	20
Due to accidents or homicides—(only 7 of these accidents were industrial)	26
Suicides	8

Of the thirty-eight heart cases only three had any record of cardiac physical findings at the time of their last examination at the plant.

Of the thirty-eight who died of heart disease, eighteen died suddenly after less than two days' illness. Four had other complications. Three died while on the company premises, one in the dispensary, one while walking through the plant on the way home with a foreman's pass because of not feeling well but not having reported to the dispensary. The history of neither man indicated that he had been engaged in any heavy work that day, nor did either case do heavy work. The third died while playing basketball in the evening on our premises. Diagnosed by the coroner as "valvular heart disease." Age group between 20 and 30.

The other thirteen died over the week

end. This particularly applies to those cases in which the death certificate bore cause of death, "acute dilatation of the heart."

A year ago in London I was privileged to examine 159 workers employed in a chemical plant. Of these, there were eight cases of aortic type, one with mitral stenosis and seven cases of marked tachycardia. All these cases were apparently in health and losing no more than the average number of days. All eight cases of the aortic type were on comparatively light work. The selection of work for these workers with aortic lesions was apparently made from the fact that all had long term service records and some suffered with "shortness of breath." It is interesting to note that three of these workers admitted syphilitic infection within the past fifteen years.

Our best intentions regarding the placement of employes with damaged hearts are frequently thwarted by rulings of existing beneficial associations or the curious wording of some state compensation insurance laws. In those states having occupational disease compensation insurance laws, the examiner must necessarily be especially prudent in his selection of affected hearts. Certain states still maintain the clause, "in the course of employment," and do not include the expression, "arising out of." This is indeed a difficult situation to surmount.

Knowing that a nationally known physician attached to a large steel mill had been making observations of the effects of manual labor on cardiac cases, I wrote asking him the results he had obtained, and the privilege of citing his work in this paper. His answer is as follows:

"I did not get very far in the heart work. Shortly after I talked with you we changed our relief and benefit scheme and it is hard now for us to employ 'poor hearts.'

"We do, however, keep our old ones, and those I had in mind when I talked with you are still here.

"Another with a marked myocardial degeneration worked as a laborer for two years.

"I am still just as much at sea as ever and am sorry I cannot help you. I am convinced from observations that many so-called heart cases are still good men."

Believing that a word of caution, to balance my seeming optimism, is fitting, I would strike a word of warning to any who may seek to be adventurous in their experiments with muscle fatigue of the diseased heart. Be sure of your diagnosis and classification. Make no placements amid harmful gases, vapors or poisonous dusts. Keep a careful record of entrances. Impress on the mind of the employe, not the danger of his heart, but the importance of a routine follow-up and re-examination. On or about the date for re-examination, let nothing prevent its fulfillment. Be sure that the employe is not transferred to other work than that for which he is originally selected until you have given your approval.

The various heart clinics have a standard classification relative to employment placement formulated by the Association of Cardiac Clinics, as follows:

Class I. Patients with *organic heart disease* who are *able to carry on* their *habitual physical activity.*

Class II. Patients with *organic heart disease* who are *able to carry on diminished physical activity.* (A) Slightly decreased. (B) Greatly decreased.

Class III. Patients with *organic heart disease* who are *unable to carry on any physical activity.*

Class IV. Patients with *possible heart disease.* Patients who have abnormal *physical signs* in the heart, but in whom the general picture or the character of the physical signs leads us to believe that they *do not originate from cardiac disease.*

Class V. Patients with *potential heart disease.* Patients who do not have any suggestion of cardiac disease, but who are suffering from *an infectious condition* which may be accompanied by such disease; *e.g.,* rheumatic fever, tonsilitis, chorea, syphilis, etc.

As this classification, only, is followed by the heart placement bureaus, it is difficult to ascertain the specific diagnosis of those placed in industry. During 1930 the Cardiac Placement Bureau of the Philadelphia Health Council and Tuberculosis Committee placed in industry thirty-nine people. This group was composed of both men and women. They were placed conservatively and all on very light work; telephonists,

soldering on radio parts, wrapping chewing gum, sewing in book bindery, making lamp shades, mechanical dentistry, packing in shirt factory, order man in warehouse, night watchman on construction job.

These positions, you will please realize, were given to people who were definitely advanced cardiac cases and had been diagnosed, treated and referred by a heart clinic. The placement of these people in industry is an outstanding piece of work and such work has a monumental place in American life.

This leaves, however, that great unnumbered mass of undiagnosed, untreated, unadvised and unclassified people going around, frequently making a superhuman effort to accommodate their physical condition to the necessity of keeping up the obligation of normal life.

Each industry has its individual obligation to community life. As these people present themselves as applicants for positions from which they can create and support a family unit, it is our civic obligation to have an established specific policy adaptable to the industry by which these cases can be selected and placed to mutual advantage.

I am indebted for their collaboration to my associates in the Medical Department of the Edward G. Budd Manufacturing Company and Budd Wheel Company of Philadelphia and Detroit, and Dr. A. G. Beckley, our medical consultant in Philadelphia.

OPHTHALMIC CONDITIONS OF CHILDREN IN THE RURAL PARTS OF MICHIGAN

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Among the weekly reports submitted by the various county public health nurses, under supervision of the Children's Fund of Michigan, were found suggestions to the effect that many children in their rural communities were in the need of eye examinations. Accordingly, the Trustees of the Children's Fund of Michigan voted an appropriation which permitted a three months program to investigate the eye conditions in the various rural parts of Michigan. Feeling that this need was greatest in those counties which were farthest from large cities it was decided to commence first in them. The counties selected accordingly were Newaygo and Osceola, which together have an approximate population of about 21,000. The bulk of the population is approximately fifty miles and thirty miles, respectively, from Grand Rapids, Michigan (150,000 pop.), and Muskegon, Michigan (50,000 pop.).

The work was commenced on September 25, 1930, and was concluded on December 31, 1930. The program adopted was as follows: The first three days of each week were spent in refracting and examining the children. Instillation of drops, fitting and delivering the lenses was done by my assistant, who was especially trained for this work. During the last three days of each week she delivered the glasses, compiled our records and made preparations for the following week. In addition we were assisted by the nurses of the two counties in which the work was carried on. The work of the nurses in our program consisted of the following: Examinations were made by them of all the school children (total 5,168). All those who had complaints suggestive of eye strain or defective vision were urged to consult an ophthalmologist. It is of interest to note that although many of the examinations by the nurses were done as far back as nine months before our work commenced, less than 5 per cent actually consulted an eye specialist. In all, we examined over 800 children, and it is safe to say that 150 did

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not come in for one reason or another. Necessary transportation arrangements were also made by the nurses. No small credit is due these two women, for it was due to their tireless work that we were enabled to examine so many children in forty-four working days.

Newaygo county, which had the bulk of the population (17,000) was first selected. Our headquarters in this county were located at the Court House in White Cloud, where several rooms were placed at our disposal. Our equipment was similar to that found in the average opthalmologist's office—we used the Standard Illuminated Charts. Because of the fact that the visions taken by the nurse were often under unsatisfactory lighting conditions, we recorded the visions found by ourselves under uniform standard lighting conditions. We succeeded in examining about 20 patients a day. Included in our group were 18 pre-school children, as well as 10 post-graduate high school students (normal school students). Two per cent homatropin was used as the mydriatic. In cases where accommodation was found to be present after instillation, 1 per cent atropin was instilled and the patient was examined the following day. Although homatropin was not deemed the ideal mydriatic, nevertheless it was found to be the most expedient. At first we intended to use atropin but this idea was discarded for a number of reasons: (1) Our nurses informed us that many of the parents were quite illiterate and hence that it might not be safe for them to use atropin. (2) Many of the parents were prejudiced against mydriatics, thinking them to be dangerous. In order to dispel any false impressions a routine letter was sent to each of the parents informing them of the need of a mydriatic, its benefits and harmlessness. In spite of this a certain number stayed away for this reason. For the most part glasses when found to be necessary were prescribed on the basis of mydriatic findings. In about 5 per cent of the cases, a post-mydriatic test was found to be advisable and done. Frames, when glasses were prescribed, were fitted by Miss McIntyre, who subsequently delivered them herself.

Glasses were furnished free to indigent children and the actual cost of the glasses was charged those who could afford to pay. Judging from our records, over 80 per cent of the children were found to be indigent. No doubt the present financial depression was a contributing cause to the high degree of indigency. As has been previously mentioned the patients seen at the clinic consisted of two types: (1) Those complaining of defective vision and (2) those with complaints which the nurse thought might be attributable to eye strain. In addition, the pre-school children were examined at the instigation of their parents, even though there were no complaints. Below is a brief classification of the majority of the complaints based on the findings in 809 children. A number of other children were examined whose records are not included due to the fact that complete data were not obtainable for one reason or another.

Complaints	*Total*	*Percentage*
Visual complaints (one or both eyes)	559	69.0
Headaches	556	68.0
Blurring (while reading)	250	30.0
Tearing	193	23.8
Blepharitis	72	8.9
Hordeolums	71	8.7
Granular lids	67	8.2
Discharge	57	7.0
Photophobia	53	6.5
Dizziness	53	6.5
Squints	47	5.8
Diplopia	27	3.3

As the classification shows, visual disturbances of either one or both eyes, headaches, tearing and blurring while reading, were given as the most common complaints in the order mentioned. 556 children gave headaches as one of their complaints, and of these 556 children, 453 were prescribed glasses. It should be borne in mind, though, that some of these children who complained of headaches had other eye complaints. It is of interest to mention, however, that of 479 children who had 20/20 vision 164 were prescribed glasses where headaches alone was the complaint. There is no doubt that headache is one of the most common causes of complaints in children and that it is certainly advisable to rule out eye strain as a cause before more extensive examinations are undertaken.

The following is a résumé of the children examined based on ages:

Age	*Number of children examined*	*Number of glasses prescribed*
5	18	10
6	38	22
7	38	24
8	54	35
9	60	46
10	86	58
11	84	59
12	93	60
13	84	58
14	81	65
15	65	40
16	49	30
17	36	29
18	12	10
19	10	8
20	1	1

The visions as well as subsequent visions obtainable after correction are listed below. Our classification of visions is based on that of the better eye.

of corneal scars, and Progressive Myopia (3).

In all forty-seven squints (forty-four internal and three external) were seen. Of this number eight were already wearing glasses, whereas forty-five were prescribed glasses by me; two cases were present where no refractive error was found. In quite a few instances more than one member of a family was found to be suffering with a squint. In fact, in several families as many as three children had squints. Because of this condition several of the parents brought into the clinic some of their other children of pre-school age. Some of these pre-school children had even higher errors than their brethren who had squints, and I believe it is safe to assume that at least some of them would have developed a squint; this they

Number of children	Percentage	Uncor. vision	No. glasses prescribed	Visions improved to: 20/20	20/30	20/40	20/50	20/60	20/80	20/100	20/200	F. C.
479	59.2	20/20	265	265								
163	20.1	20/30	128	120	8							
41	5.0	20/40	41	26	15							
42	5.1	20/50	41	29	6	3	3					
12	1.4	20/60	12	11	1							
4	.5	20/80	4	3	1							
39	4.0	20/100	37	25	4	3	4			1		
27	3.3	20/200	25	15	3	2	1	2		2		
2	.2	Finger Counting	2	1								1
809			555	495	38	8	8	2		3		1

The classification as has been mentioned is based on the vision of the better eye. It is for this reason that the percentage of uncorrected 20/20 vision is 59.2 per cent. Actually 305 instead of 479 had a vision of 20/20 in both eyes. Most of the children, as can be seen from the above mentioned figures, were brought up to 20/20 vision following correction. Out of 330 children whose vision was 20/30 or less, 230 of them were raised to 20/20.

The actual amount of pathology seen was very small and consisted of the following: Interstitial Keratitis (1); Bilateral dislocated lenses (1); Phthisis Bulbi (1); Rupture of choroid (1); Leukoma of cornea and atrophy of eye, following knife injury (1); Traumatic dislocated lens and subsequent amblyopia (1); Chorio-retinitis bilateral (1); Choked disc (1); Primary atrophy of both discs (1); Unilateral atrophy of temporal aspect of optic disc (1); Several cases might do anyhow but their chances are less and even if they do the amount of deviation will be a whole lot less.

Previously it has been mentioned that eighteen children of pre-school age were examined. These children had no particular complaints. They were brought in by their parents, who wished to avail themselves of the opportunity of getting these youngsters examined. Of eighteen examined ten were prescribed glasses. The prescriptions of these youngsters were as follows:

$+0.25 + 1.00 \times 75$
$+1.00 + 0.50 \times 75$
$+1.25$
$+1.50$
$+1.75 + 0.50 \times 75$
$+1.75 + 1.00 \times 80$
$+2.00 + 0.50 \times 90$
$+2.25 + 0.25 \times 75$
$+3.25 + 0.25 \times 90$
$+6.00 + 1.00 \times 105$

That the refractive error can be very high and 20/20 vision be maintained is borne out by the following chart. Prescriptions of 265

children with 20/20 vision prescribed glasses were:

Number	*Errors*	*Number*	*Errors*
5	+0.25	4	+2.00
1	+0.25 +0.25 × 75	1	+2.00 +0.12 × 90
1	+0.25 +0.25 × 80	2	+2.00 +0.25 × 75
3	+0.25 +0.25 × 180	1	+2.00 +0.25 × 80
6	+0.50	1	+2.00 +0.25 × 90
2	+0.50 +0.25 × 75	1	+2.00 +0.75 × 75
1	+0.50 +0.25 × 85	1	+2.00 +0.75 × 85
3	+0.50 +0.25 × 90	5	+2.25
1	+0.50 +0.25 × 105	1	+2.25 0.25 × 75
1	+0.50 +0.37 × 80	1	+2.25 +0.25 × 80
1	+0.50 +0.50 × 60	1	+2.25 +0.37 × 75
1	+0.50 +0.50 × 80	1	+2.25 +0.75 × 90
3	+0.50 +0.50 × 90	1	+2.50
10	+0.75	1	+2.75 +0.75 × 80
1	+0.75 +0.25 × 60	2	+3.00
4	+0.75 +0.25 × 90	1	+3.25 +0.50 × 60
1	+0.75 +0.50 × 70	2	+3.50
1	+0.75 +0.50 × 75	1	+3.50 +0.75 × 75
1	+0.75 +0.50 × 85	1	+3.75 +0.50 × 90
3	+0.75 +0.50 × 90	2	+4.00
38	+1.00	1	+4.25 +0.50 × 75
3	+1.00 +0.25 × 75	1	+4.50 +0.50 × 90
1	+1.00 +0.25 × 90	1	+5.00 +0.50 × 85
1	+1.00 +0.25 × 105	1	+5.75 +0.25 × 45
1	+1.00 +0.37 × 105		
1	+1.00 +0.37 × 180		
2	+1.00 +0.50 × 75	1	+0.25 × 60
4	+1.00 +0.50 × 90	1	+0.25 × 95
1	+1.00 +0.75 × 90	2	+0.25 × 105
1	+1.00 +0.75 × 95	1	+0.50 × 90
1	+1.00 +1.00 × 90	1	+0.50 × 120
1	+1.00 +1.00 × 180	3	+0.25 +0.50 × 75
28	+1.25	4	+0.25 +0.50 × 90
4	+1.25 +0.25 × 75	1	+0.25 +0.50 × 120
1	+1.25 +0.25 × 85	2	+0.50 +0.50 × 75
8	+1.25 +0.25 × 90	3	+0.50 +0.50 × 90
1	+1.25 +0.50 × 45	1	+0.75 × 75
1	+1.25 +0.50 × 75	1	+0.75 × 90
1	+1.25 +0.50 × 85	1	+0.75 × 105
2	+1.25 +0.50 × 90	1	+0.25 +0.75 × 90
1	+1.25 +0.75 × 90	1	+0.50 +0.75 × 75
19	+1.50	1	+0.50 +0.75 × 80
1	+1.50 +1.12 × 90	1	+0.50 +0.75 × 85
1	+1.50 +1.25 × 75	1	+0.50 +0.75 × 90
2	+1.50 +1.25 × 90	1	+0.75 +0.75 × 60
3	+1.50 +0.50 × 90	1	+0.75 +0.75 × 90
1	+1.50 +0.75 × 95	1	+0.75 +0.75 × 105
1	+1.50 +0.75 × 105	1	+1.00 × 60
10	+1.75	1	+0.50 +1.00 × 85
2	+1.75 +0.25 × 90	1	+0.50 +1.25 × 95
1	+1.75 +0.50 × 75	1	+0.50 +1.50 × 85
1	+1.75 +0.50 × 85	1	+1.50 × 90

Strange as it may seem a number of children were found with errors from three to five diopters and yet their complaints were quite negligible. On the other hand others with the smallest errors complained most bitterly. Every case is therefore a problem unto itself.

As has been previously mentioned most of the children who were examined by the nurses had been urged to consult an ophthalmologist. Less than 5 per cent actually did so. Of all the children examined only forty-seven were found to be wearing glasses and of those only ten were prescribed under a mydriatic. Some of the children were fitted by mail, others by a representative of one sort or another who travelled from town to town. In some cases several members of the same family alternated wearing the same pair of glasses. In short, the condition of affairs was not found to be conducive to good health. There is no doubt in my mind that many a child in these communities regarded as stupid or mentally deficient would greatly improve after the correction of visual defects.

The three months study certainly proved the need of some sort of a program whereby children in rural communities be examined by an ophthalmologist. How best to solve this problem I am not prepared to say at this time. One thing is certain: many thousands of children in rural communities are neglected and a great deal of amblyopia is occurring which can be prevented.

I want to acknowledge my utmost thanks to Dr. B. W. Carey, Medical Director, for his coöperation and assistance; to Mr. W. J. Norton, the Executive Director of the Children's Fund of Michigan; to Miss Andrews and Miss Hurt, the County Nurses; to Miss McIntyre, my Assistant, and to Miss Keppler, my secretary.

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CERVICAL RIBS

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The infrequency with which cervical ribs are met with, or at least recognized and reported, has caused me to believe that more attention should be called to this distressing but readily relieved anomaly.

The fact that I have had occasion to operate successfully upon four cases in the last three years (two of my own and two referred) makes me wonder if many cases are not overlooked. I have been in active practice nineteen years and these four cases are the only ones I have recognized, and many of my colleagues of whom I have inquired say they have never recognized or heard of one.

The present day surgical works give cervical ribs slight mention or but a passing paragraph.

To review the anatomy according to Gray, "Cervical ribs are an abnormal outgrowth of bone from the anterior roots of the transverse processes of the seventh cervical vertebra." They are of not infrequent occurrence and are important clinically because of the obscure nerve and vascular disturbances to which they give rise. They vary in size and length, are single or bilateral, extending occasionally as far as the first thoracic rib.

Symptoms.—The symptoms naturally depend upon the size, length and direction of the rib development. Pressure upon the subclavian artery may produce atrophy of the arm and finger and even gangrene. Pressure upon the brachial plexus may give rise to severe pain in the arm and fingers accompanied by trophic and functional disturbances.

Late cases probably will not be difficult to diagnose, but it is most important to recognize the trouble before the injury is too extensive if complete recovery is to be expected. A patient who complains of persistent, even though not severe, tingling and anesthesia and neuralgic pains in the arm and hand should have an X-ray examination of the cervical vertebræ. These symptoms continue with more or less persistence and increased severity until there is a loss of strength in the affected arm and hand, with a wasting of the muscles between thumb and index finger. In the cases which I saw none of the symptoms was severe early in the trouble, and no patient complained of pain or soreness in the neck. Nor was there any noticeable growth or enlargement in the cervical region. All of the patients were treated for some time for neuritis, neuralgia, rheumatism, etc. They passed through several hands and finally came back to their family physician undiagnosed. An X-ray examination was not made until the muscular wasting was alarmingly severe.

I will report one of the cases, my own, which gives a history similar to the others operated:

Mrs. G. W., age 30, well nourished, family history negative. Since leaving bed after confinement case, had felt a tingling picky sensation in the left arm and hand accompanied by more or less steady aching. Aspirin would relieve the pain temporarily. She noticed a progressive loss of strength in the hand and arm. She was unable to milk cows. She would drop a pail of water if she attempted to lift it. There was a slight wasting of the muscles of the left hand between the thumb and index finger. Having seen other cases of cervical ribs, I was suspicious of the case and had an X-ray examination, which showed the transverse process of the seventh cervical vertebra to be about two and three-fourths or three inches long. Operation was advised. Finally after about ten months she returned and decided to have an operation. At this time the arm was practically useless, and the muscles especially between the thumb and index finger, badly atrophied. There was no soreness or palpable enlargement in the cervical region. I removed a cervical rib about 2½ inches long, first stripping off the periosteum, as the tip of the rib seemed adherent to the subclavian artery. The lining of the periosteum was carbolized to prevent possible recurrence of the bony formation. This was six months ago. She is rapidly regaining the use of her arm. All pain has subsided.

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ARTERIAL HYPOTENSION*

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Arterial tension is a very important physiological factor in the maintenance of a balanced circulation. This balance may be disturbed by chronic hypertension and also by hypotension. Hypotension is found in a large group of individuals who may develop symptoms ranging from general weakness and fatigue, to medical or surgical shock, which occasionally proves fatal. The maintenance of a balanced circulation in either hypertension or hypotension depends on (1) the caliber of the blood vessels, (2) the pulse rate and (3) the force of the heart beat. All these three factors are controlled by the autonomic nervous system. Hypotension may be considered to exist if the systolic pressure is below 100 to 105, the diastolic ranging from 50 or less to 80, depending on the existing pathology. We may have a relative hypotension with systolic figures in the hypertensive range due to vasomotor paralysis, shock, or myocardial failure. A careful study of the arterial tension with accompanying circulatory findings as well as functional nervous symptoms is necessary to determine if a real or relative hypotension exists.

Definite types of hypotension can by the use of these measures be recognized and classified, and the therapy may be varied accordingly. The most disastrous type is that of shock either medical or surgical. If not promptly controlled sudden death may occur. This condition is precipitated by a vasomotor depression or paralysis, accompanied by a marked drop in blood pressure, regardless of whether the pressure was high or low, due to a sudden increase in the vascular bed or capillary dilation, and loss of force in heart beat despite increase in rate. The cause may be loss of blood due to traumatism or surgery, dehydration from various causes such as severe diabetes, toxic influences, the result of severe infections such as pneumonia, influenza, extensive burns, etc. Even an extreme degree of fear or depressive emotional disturbances have been reported as the cause of shock resulting in death. Fundamentally we have capillary paralysis, lack of fluid in the tissues, which lowers blood pressure to unusual levels such as 60 or less, and thus interferes with proper distribution of blood to vital organs, causing extreme prostration and death.

In this condition treatment must be applied promptly. A falling blood pressure, becoming a definite hypotension as before mentioned, is sufficient indication that vigorous therapy is called for, and an increasing blood pressure is the best evidence of relief of shock, whether medical or surgical. For this reason frequent blood pressure records should be made to determine the trend of the patient's condition. In very serious cases readings should be taken every few minutes until a definite upward trend of pressure is established. The most effective measure in severe cases is a blood transfusion of from 300 to 500 c.c. or more of blood, but valuable time may be lost in making proper preparations for this procedure. The best immediate procedure, when preparations for emergency transfusions have not been made, is the intravenous administration of 50 c.c. of 50 per cent glucose. Every physician and hospital should have ampules of this solution at hand for prompt use when necessary. This concentrated solution of glucose brings more fluid into the circulation, is a nutritive aid to the myocardium and thus will serve to increase blood pressure. It may be necessary to follow this procedure with saline infusion in liberal quantity, to which glucose may be added if necessary. Minor degrees of shock may not need these drastic measures, but may be overcome by the use of caffein in rather liberal and repeated doses. Adrenalin may be tried, with caution, but the above measures are more satisfactory. One must not forget the usual physiotherapy, such as application of heat to extremities, rubbing of body, application of pressure to abdomen, all of which serve to equalize the circulation.

The type of hypotension next in impor-

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tance is similar to the first only minor in degree. It occurs in patients who have recovered from severe acute illness such as influenza, broncho-pneumonia, typhoid fever or similar type of infection; also in cases in which some focal infection produces a toxin that depresses the vasomotor system and lowers arterial tension as well as depresses the general tone of the patient. Here the drop in tension may be relative, depending on the pressure existing prior to the etiological factors. The blood pressure is symptomatic of a general condition and is a rather definite measure of the real condition. The patient complains of lack of strength and endurance, dating from the time of his illness. In my experience many cases of this sort present themselves after epidemics of upper respiratory infections in the latter part of the winter season. The systolic pressure is often as low as 80 or 90 with a diastolic of 60 or less.

In this type of hypotension the removal of any focal infection, rest, and perhaps change of climate, to overcome any remnants of acute infection, are in order. In addition an appetizing, blood-building diet is essential, and attention to adequate intestinal elimination, preferably by means of diet and the milder laxative measures. Hydrotherapy, massage and heliotherapy, in conjunction with the above regime, usually result in satisfactory recovery.

The third type of hypotension may also be relative, and is due to failure of myocardial efficiency. This may be precipitated by an active degeneration of the heart muscle from various causes, and may first be noted after an acute illness as in the former group. The long strain of arterial hypertension, obesity with or without hypertension, long standing focal infections and, of course, chronic valvular disease, coronary sclerosis or thrombosis, are the chief etiological factors. The symptoms are those of myocardial failure in varying degree. The systolic pressure drops much more than the diastolic and we have a definite decrease in pulse pressure, which may often be as low as 20 as compared with a normal of 40 or 50. Here the therapy is that for myocardial failure such as rest, digitalis and mild forms of physiotherapy, especially massage, sun baths, etc.

The hypotension of Addison's disease must also be mentioned, as in these cases we see a marked persistent hypotension and marked asthenia. The disease is usually due to tuberculosis of the suprarenal glands and as it progresses the asthenia and hypotension increase together with other symptoms, especially gastro-intestinal in nature, until death results. It is interesting to note that some of the symptoms are in the nature of shock, and with the hypoadrenalemia, a hypoglycemia and low basal metabolism occurs. A characteristic pigmentation of the skin is noted in most cases and is progressive with the increasing hypoadrenalemia.

The treatment of this type is usually of little avail. The most potent remedy is suprarenal extract in large doses. In view of the hypoglycemia, the use of sugar between meals with the suprarenal extract seems logical.

The last form of hypotension that I wish to discuss occurs in a large group of individuals who have a pressure of about 100 or less systolic and a diastolic of 55 to 70. Most of them belong to the asthenic type of individual. Their capacity to do is limited. Among them may be many that have no complaint as long as the stress and strain of modern civilization is limited to their constitutional capacity to carry on. They recognize their inability to tolerate the drive in work and play that more robust individuals tackle with apparent impunity. As long as they live within their limitations all goes fairly well, but sooner or later they either become ambitious to keep up with someone of the robust type or they are forced to venture beyond their physical capacity in carrying on their occupation with its responsibilities and worries. Others, by accident or otherwise, become subject to extreme anxiety, worry or fear precipitated by illness in the family, domestic or financial troubles. These asthenic individuals do not tolerate these conditions, which force them to go beyond their limits, and as a result the strain affects the autonomic nervous system with marked depreciation in health. The sympathetic side is the driving force in all our activities, emotional, physical or otherwise. Eventually fatigue of the sympathetic nervous system occurs which finally results in an atonic condition and then a hyper-irritability or hypertonus of the parasympathetic or vagus side occurs. In this condition called vagotonia, we have a striking group of symptoms including hypotension. Clinically, these cases come to us complaining of an overwhelming fatigue

that occurs with very slight effort, indicating a very limited endurance for the ordinary activities or duties of life. They have often been told that their blood pressure is low and is the chief cause of their trouble, or they have been advised that they have neurasthenia and that they must either rest or exercise to recuperate. The hypotension is the result of sympathetic fatigue and a resulting hypoadrenalemia. The fatigue or lack of endurance can be explained by a hypoglycemia due to the over-stimulation by the parasympathetics or vagus resulting in increased secretion of the pancreas including insulin. Some of these cases, after unusual effort or strain, will present symptoms bordering on mild shock, reminding us of the symptoms that occurred from overdose of insulin in the diabetic before the insulin unit and proper dosage had been developed. In most cases presenting this unusual fatigue, the fasting blood sugar is below 90, and if we subject them to the glucose tolerance test the blood sugar curve will practically always be lower than normal and usually in the second or third hour a definite hypoglycemia of 70 and occasionally as low as 45 or 50 mgm. per 100 c.c. of blood is found. During the course of the sugar tolerance test some will have a typical hypoglycemic or hyperinsulin reaction. At such times the arterial tension reaches a level often as low as 80 systolic. Another interesting finding is that these patients all have a definite hypometabolism, often as low as —15 or —20. This is probably best explained by the fatigue of the sympathetic side of the autonomic nervous system, causing a deficient activity of the thyroid, as over-activity of the thyroid is always associated with an over-activity of the sympathetic. Nearly all these cases have a spastic colon due to the hyper-irritability of the vagus, and with it a definite constipation which tends to aggravate the fatigue and other symptoms of a depressed vasomotor system.

This group of symptoms may develop in the sthenic type of individual as a result of some very unusual physical and mental strain. Such a case recently under observation presented all the foregoing findings, with a blood pressure of 80 to 100 systolic, a fasting blood sugar of 80 mgm. and in the glucose tolerance test a blood sugar curve dropping to 62 at about the third hour. Fatigue was associated with dizziness and palpitation of the heart, etc. The patient had no pronounced symptoms of this trouble until three years ago when he had the following experience. While fishing at the seashore his boat capsized in an outgoing tide. He was a fair swimmer but there was no chance of getting any help within a mile, and the physical effort of keeping above water, and the calling for help, and the terrible fear of drowning, resulted in a state of collapse when rescued. Since then the symptoms of extreme fatigue had recurred practically every day, and always if he took even a moderate amount of exercise or if worried more than usual by business, or other affairs.

The therapeutic management of this type of hypotension is not as simple as in the other types mentioned. A great deal of patience is required by patient and physician because it takes time to correct the imbalance that exists in the autonomic nervous system.

In the first place these patients must adopt a program, regulating their activities so as to remain always within their limitations and thus avoid the unusual fatigue to which they are subject. Many so-called neurasthenics from this group have been told to exercise to build up their health, with disastrous results. Rest in bed may be necessary in some cases. If the patient just referred to had gone to bed for a week or more after his fishing experience, the nervous imbalance might have been prevented.

Because of the tendency to hypoglycemia and associated fatigue, frequent meals are indicated. The total intake of food may not need to be increased unless the patient is underweight, but by taking food containing a small amount of easily assimilated carbohydrate between meals and at bedtime, the hypoglycemia may be avoided. Some of these cases have already learned that the taking of food relieves them promptly of the sense of fatigue. I usually recommend orange juice or some other fruit in season, a few pieces of candy, or perhaps some buttermilk. Because of the hypoadrenalemia, suprarenal extract is given, often in large doses—in severe cases as much as 30 or more grains a day. This program must be carried on over a period of months and sometimes years in the severe cases in order to overcome this symptom-complex. This is especially true in the cases belonging to the class usually called constitutionally deficient.

In the cases occurring in the fairly robust

individual as a result of overwork or some acute infection such as influenza, the program here outlined gives rather prompt results.

By a careful study of our neurasthenics, I believe we shall find many belonging to this class who have a definite pathology suggested by the arterial hypotension, hypoglycemia, hypometabolism, and these findings should be a definite aid in instituting proper therapy. It is interesting to note that the above findings are recognized in Addison's disease, and the therapy suggested is very similar.

ANEMIA IN CHRONIC NEPHRITIS*

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Anemia is commonly observed in chronic nephritis. Clinical evidence points toward decreased function of the bone narrow rather than increased blood destruction, the anemia resembling a simple chronic type with low color index, a low percentage of nucleated red blood cells and a loss of regeneration of the bone marrow with little evidence of reticulated cells. The entire reaction of the blood in nephritis suggests a toxic effect on the blood-cell-forming apparatus.[1] Some cases present the features of an aplastic anemia with complete absence of immature and regenerative types of cells and an absolute lack of response to treatment. While hematuria may and does occur, it seems to bear no relationship to the anemia. In patients with hemorrhagic nephritis anemia is usually absent, or present in only slight degree. Severe anemia is frequently found in cases where no hematuria has been observed.

The blood platelets as a rule show no change except in association with severe anemia. Brown and Roth[2] found the blood platelets averaging 152,000 in eight cases of chronic nephritis with severe anemia. They conclude that this condition may have some bearing on the hemorrhagic tendency in some of the more severe cases.

In chronic diffuse nephritis we have progressively diminishing renal function and marked cardiovascular disease, commencing as a rule in an individual less than forty years of age. In the end stage where probably three quarters or more of the tubules and glomeruli have been destroyed, these cases show all the signs of renal insufficiency. In spite of a restricted protein intake, the blood nitrogen rises to high levels, and an anemia which early in the disease is less severe than one might expect from the appearance of the patient, gradually becomes more pronounced, and adds to his extreme disability. Particularly in cases of acute nephritis, and occasionally in chronic nephritis with edema, we are surprised to find the blood count and hemoglobin normal, when the appearance of the patient suggests a definite anemia. The pallor is in these cases associated with edema, and probably secondary to vasoconstriction. In severe chronic nephritis without edema, the skin and mucous membranes have a yellowish tinge, not unlike some cases of pernicious anemia. In these cases a close parallelism was found to exist between the anemia and the blood nitrogen. Brown[3] found that hemoglobin readings of 60 per cent or less have approximately the same serious prognosis as have blood creatinin values over 5 mgm. per 100 c.c. When the patient is in the compensated stages of the disease there may be marked anemia with a normal blood creatinin. With the onset of renal insufficiency, however, the anemia is usually severe and closely parallels the blood nitrogen. Repeated blood examinations may then be used as a valuable index of renal function.

The progressive nature of chronic nephritis, together with the close relationship between the blood nitrogen constituents and the secondary anemia, is well exemplified by the following case:

Case 1.—A young woman, 21 years of age, came

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for examination on June 25, 1927, complaining only of slight fatigue. The physical examination was negative, except for a slight hypertension—140/95. The specific gravity of the urine was low, and there was some loss of power of concentration. A trace to a heavy trace of albumin with negative microscopical findings was present at several examinations. Blood chemistry: non-protein nitrogen 43.3; urea 25.8; creatinin 1.5 mgm. per 100 c.c. Blood: Red cells 4,250,000; white cells 8,100; hemoglobin (Dare) 80 per cent. Three months later the urine showed the same restricted variation in specific gravity; the albumin increased to 3 per cent with occasional hyaline casts. Non-protein nitrogen 56.3; urea 31.7; creatinin 2.8 mgm. per 100 c.c. Blood: Red cells 3,780,000; white cells 8,100; hemoglobin (Dare) 77 per cent. Four months later the blood creatinin had increased to 3.2 mgm. per 100 c.c. with a definite increase in the secondary anemia: Red cells 3,040,000; white cells 8,100; hemoglobin (Dare) 70 per cent. Her only complaint was fatigue. There was no evidence of cardiac hypertrophy, no changes in the retinal arteries, and the hypertension remained about the same.

June, 1930, three years after her initial examination, she returned with the findings of advanced chronic nephritis: cardiac hypertrophy, hypertension —blood pressure 180/120, extensive arteriosclerosis, and many flame-shaped retinal hemorrhages. The specific gravity of the urine was fixed at 1.009; there was a large amount of albumin with hyaline and granular casts. Blood chemistry: Non-protein nitrogen 110; urea 66.2; creatinin 5.2 mgm. per 100 c.c. Corresponding to the increase in the blood nitrogen constituents, we have a marked increase in the existing anemia: Red cells 1,620,000; white cells 7,200; hemoglobin 49 per cent.

The anemia of chronic nephritis occasionally precedes the other symptoms, and is often of definite diagnostic value in calling attention to possible insufficiency of the kidneys. Scarlett[4] has reported four cases of severe chronic nephritis with uremia in which hypertension, cardiac hypertrophy and retinal changes did not occur, and in which a simple anemia was the single cardinal finding. We have recently studied a case of chronic nephritis with renal insufficiency and a severe anemia with a gradual return to a compensated stage of the disease and a corresponding improvement in the blood nitrogen and the anemia.

Case 2.—The patient is a married man, 39 years of age, who reported to the clinic November 24, 1929, complaining of constant localized tenderness in the epigastrium with moderately severe dull pain in the same area not definitely related to food, and of two years' duration. He is never awakened at night with pain but does have frequent heartburn relieved temporarily by soda. On one occasion a roentgen diagnosis of duodenal ulcer with pylorospasm was made, and the patient was placed on an ulcer regime without relief from symptoms. The family history was negative except that his father died of uremia at the age of forty-five. Previous history of ailments was negative.

The appearance of the patient suggested a moderately severe anemia which was verified by the following blood findings: Red cells 2,100,000; white cells 8,700; hemoglobin (Dare) 61 per cent; color index 1.2. The urine had a low specific gravity, albumin double plus, occasional hyaline casts, and a few pus cells. Microscopic examination for blood cells was negative. Wassermann test was negative. Blood chemistry: Non-protein nitrogen 61.7; urea 39.5; creatinin 3.8 mgm. per 100 c.c. A concentration dilution test showed a fixation of specific gravity with a loss of power of the kidney to concentrate, the highest specific gravity reading 1.009. Following the concentration test the patient developed anuria, headache, blurred vision and a pain in the upper abdomen similar to the pain of which he complained but more severe and accompanied by vomiting. The phenolsulphonephthalein test with catheterized samples of urine at the end of one and two hours showed only a trace of the dye in each sample. With repeated daily intravenous administration of glucose (20 per cent) and Ringer's solution he made a gradual recovery and two weeks later the phthalein elimination had increased to 10 per cent in two hours. On physical examination there was no enlargement of the heart, and the blood pressure was only slightly increased—145/90. The fundus examination showed areas of exudate with a fairly high degree of retinal arteriosclerosis.

Since the abdominal pain could not be definitely explained, he was subjected to a thorough X-ray study of the gastrointestinal tract with negative findings except for severe pylorospasm. There was a moderate hyperchlorhydria. A careful search failed to reveal any possible source of bleeding to account for the severe anemia. During the following month the patient was given a basic diet with plenty of orange juice, kept at complete rest, and received no medication. He gradually improved in strength, and the abdominal soreness practically disappeared. There was a slight improvement in the blood chemistry: Non-protein nitrogen 45.5; urea 26.5; creatinin 2.7 mgm. per 100 c.c. The anemia also improved somewhat: Red cells 2,800,000; white cells 8,000; hemoglobin (Dare) 65 per cent.

Three months later the patient returned for further observation complaining of only occasional epigastric pain. The specific gravity of the urine remained fixed at a low level, albumin reduced to a trace, with occasional hyaline casts. The renal efficiency increased to 26 per cent of the dye returning in two hours. Blood chemistry: Non-protein nitrogen 39.8; urea 19; creatinin 1.6 mgm. per 100 c.c. With this improvement in the general condition there was a corresponding improvement in the blood count: Red cells 3,490,000; white cells 8,400; hemoglobin (Dare) 80 per cent.

Ten months after the original examination the urine showed the same findings. The blood chemistry was normal and the anemia had entirely disappeared: Red cells 4,630,000; white cells 8,400; hemoglobin (Dare) 87 per cent. The renal efficiency test showed an elimination of 40 per cent of the dye in two hours. His general condition had improved and the gastrointestinal symptoms had entirely disappeared.

Acute glomerulonephritis complicated by purpuric disease may pass into the chronic stage and exhibit severe anemia. Osler mentions a patient who developed acute nephritis during an attack of visceral purpura at the age of twelve years, which passed into the chronic form with hypertension and hypertensive retinitis. The author has recently studied such a case and presents the following case report:

Case 3.—A young male, fifteen years of age, reported to the clinic April 27, 1930, complaining of

shortness of breath, generalized edema and anemia. The family history was negative except that the father had chronic Bright's disease. Following a period of fatigue extending over a few weeks he had a short fainting spell and was sent home from school. A few hours later he complained of severe generalized colicky abdominal pain with a predilection for the right side of the abdomen. A diagnosis of acute appendicitis was made and immediate surgery advised. On account of the finding of a purpuric rash on the legs as high as the knees and also around the elbow joints, operation was postponed. Twenty-four hours later the abdominal pain had disappeared, while there was visible and microscopic evidence of blood in the urine with a high degree of albuminuria and casts of all descriptions. The purpuric rash gradually disappeared but the urinary sediment remained unchanged and gradually, during the following month, there appeared some generalized edema, particularly of the face and legs, and considerable pallor. Five months after the initial fainting spell he presented himself for examination.

Aside from the edema and evident anemia, physical examination showed a marked cardiac hypertrophy without evidence of valve lesions, a moderate tachycardia and hypertension—180/110. The fundus examination showed a general edema of the whole eye grounds with a small amount of exudate about each macula and a few small flame-shaped hemorrhages near the nerve of the right eye. The urine had a slightly restricted range of variation in the specific gravity, 30 per cent albumin, several hyaline and granular casts, many pus and blood cells per high power field. Blood chemistry: Non-protein nitrogen 37.8; uric acid 3.7; total protein 4.6; serum albumin 2.3; serum globulin 2.3; cholesterol 215 mgm. per 100 c.c. Blood: Red cells 2,240,000; white cells 9,600; hemoglobin 50 per cent (Dare). Blood platelets 152,000. In spite of all therapeutic measures, including a high protein diet, thyroid extract, purine base diuretics, etc., the general edema, hypertension and anemia remained unchanged. We feel this case illustrates purpura complicated by acute nephritis rapidly progressing through the subacute and subchronic stages into true chronic nephritis.

The distinction between purpura with acute nephritis and acute nephritis with purpura is mainly of academic interest. Blood transfusion as treatment for the purpura might be considered, but according to Osman's[5] experiences this operation may be attended by such grave risks, where there is a pre-existing renal lesion, that postponement should be advised in all but extremely urgent cases.

Pratt[6] found that the acute nephritis of Henoch's purpura occurs in three forms: (1) Acute course, dropsy and death from uremia in three months. (2) The blood and albumin disappear from the urine with complete recovery (most of the cases belong to this group). (3) The nephritis becomes chronic. According to Pratt, acute nephritis is especially liable to occur in those cases of purpura in which abdominal pain is pronounced. The cause of the gastrointestinal symptoms is unknown. Osler[7] believed the pain to be associated with a localized urticarial swelling of the gastrointestinal wall.

Usually there is no anemia in cases of essential hypertension without gross arteriosclerotic changes and without evidence of renal or cardiac failure. Fishberg[8] found that with the development of severe arteriosclerosis, particularly of the coronary arteries, secondary anemia often appears and may be marked. Cardiac insufficiency not associated with valvular disease, when unusually protracted, is frequently accompanied by an anemia which may be severe and occasionally resembles the blood picture of pernicious anemia with a high color index.

Case 4.—A woman, 55 years of age, came under our observation, May 11, 1929, complaining of fatigue of two years' duration, extreme weakness, dyspnea and edema of the legs. During the past two years she had been treated for cardiac decompensation on two occasions. Physical examination showed a rather slender frame with considerable pallor of the skin and mucous membranes. There was marked cardiac dilatation, a prolonged soft systolic murmur at the apex transmitted towards the axilla. There was a small amount of free fluid in the abdomen and considerable edema of the legs. The urine had a normal range of specific gravity, a slight trace of albumin and negative microscopical findings. There was no accumulation of nitrogen materials in the blood. The blood count was as follows: Red cells 3,270,000; white cells 7,200; hemoglobin 68 per cent (Dare).

In spite of complete rest, thorough digitalization and the various diuretics, her condition grew worse. The edema increased and the anemia became more pronounced. The final blood reading three months after her admission and a week before her death was: Red cells 2,200,000; white cells 10,300; hemoglobin 66 per cent. All of the blood counts had a positive color index.

Autopsy examination showed cardiac dilatation and hypertrophy with no evidence of arteriosclerosis. The coronary arteries were normal. There was fatty degenerative infiltration of the heart with chronic fibrous myocarditis. There was chronic passive congestion of all the organs. Sections of bone marrow showed no pathological process.

In certain cases the anemia of chronic nephritis is increased by a too rigid low protein diet. While most people eat too liberally of protein foods, nothing is to be gained by subjecting those cases of chronic nephritis who can dispose of the waste products of protein metabolism to a very rigid low protein diet. It has been recently shown that not only profound metabolic changes but also a mild anemia occur in normal men simply on a reduced diet.[9] Iron starvation may lead to defective blood formation, and so anemia may develop from taking a strict milk diet over too long a period, owing to the small quantity of iron in the milk. Since the kidney efficiency may vary from time to

time it is important to estimate the blood urea, and repeat the various function tests, making dietetic alterations as necessary to keep within the working capacity of the kidney.

In conclusion, with regard to the treatment of the anemia of chronic nephritis, drugs have proved of no value. The general condition is treated by rest, restriction of fluids and salt, to meet the individual case, and a moderately low protein diet depending on the blood chemistry findings, the remainder of the diet being made up of a generous mixture of fats and carbohydrates with an adequate amount of roughage.

SUMMARY

1. Severe anemia of the secondary type is frequently found in chronic nephritis.

2. Repeated determinations of the red blood cells and hemoglobin may be used as a valuable index of renal function in cases of chronic nephritis with severe anemia.

3. The anemia of chronic nephritis occasionally precedes the other symptoms and may prove of definite diagnostic value.

4. Prolonged cardiac insufficiency not associated with valvular disease is frequently complicated by a severe anemia which may resemble the blood picture of pernicious anemia.

5. The existing anemia in chronic nephritis may be aggravated by too rigid dietetic measures.

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MEDICINE IN RUSSIA—AS A LAYMAN SEES IT

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No great industrial development is possible nor the progress of a country assured, without care and thought given to the health of its people, its workers and their families. I was desirous of securing at least a cursory insight of the hospitals and medical situation in Russia: first, because this phase of life has always interested me; second, because my good friend Dr. Andrew P. Biddle had requested me to endeavor to obtain information in reference to certain conditions and their application to the medical profession in Russia at present. For example, the doctor today in Russia is paid a salary by the State and in return must give a certain number of hours daily to the hospital, clinical work and professional calls in the interest of workers needing his service, to whom such services are free. How does the system work out, was what my doctor friend was interested to learn.

It was stated to me that Russia had very limited hospital facilities prior to the revolution, and very little medical attention was available for the proletariat; also that this service has been greatly increased since 1921 and must be constantly further extended.

The best hospital facilities are located in the three principal centers of population—Leningrad, Moscow, Kharkov. As a whole they could not be considered the equal of our good hospitals in America.

In Kharkov, being the first of the three great centers of population in Russia that I visited, I called at a large polyclinic hospital which I was informed was rated as the third in all Russia as regards services rendered. I took an interpreter with me, but

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made no previous engagement, simply calling as a casual visitor. The interpreter went to the office and stated for me the object of my visit. An intelligent appearing nurse was assigned, who took me through the many departments, each of which was in charge of a specialist. Electrical equipment and light-ray apparatus seems to be given a great deal of space and many patients were being treated therewith—infections, rheumatic conditions, nervous disorders, sinus trouble and skin diseases. There was also an extensive department devoted solely to mothers and their babies, another to contagious diseases and one especially for patients suffering from venereal disorders. Of the latter I was later informed that the portion affected by syphilis, at least so far as it applied to the Kharkov district, was approximately 3 per cent.

I was finally conducted to the office of the Chief of Staff, who acts as consultant and has 32 assistant physicians, to each of whom is assigned an attending nurse. This staff applies only to the main polyclinic above referred to, there also being several branches in Kharkov with separate staffs. I asked the Chief of Staff many questions during my stay in his office. He willingly gave of his time and courteously replied to my queries; the interview, of course, was through an interpreter. The following are some of the facts brought out:

The doctors devote about eight hours daily to their duties in the hospitals and clinics. They are all salaried men; the Chief of Staff informed me that he received 400 roubles per month. He also said that he devoted about an equal number of hours to private practice, his office being in his apartment; that his fees were from 3 to 10 roubles, according to the income of his patient. Any one ailing usually goes to the polyclinic for treatment or if a 'phone call is made requiring a visit, if the message is received before noon it is reasonable to assume that a doctor will call during that day, but if the message is not received until afternoon it is doubtful if medical aid will be rendered until the following morning. Under such circumstances, if the patient desired immediate attention it could be had from a physician during his private practice. A form of Red Cross service is also available and an emergency case would be taken care of by dispatching an ambulance from the nearest medical station and bringing the patient to the hospital. It was stated that all diseases are classified into different sections and a specialist in charge of each.

A woman worker who becomes pregnant reports at the polyclinic so that her physical condition may be determined from time to time and proper care administered. She is allowed time off for two months prenatal and two additional months following the birth of her child, and with full allowance of her wages. The hospital also supplies her with 50 roubles wherewith to buy clothing, napkins, bedding, etc., for the babe. The child when born is immediately issued a salary card and paid 9.30 roubles per month until nine months old. Thereafter government kindergartens will care for the child while the mother is engaged at her occupation. The medical services to both mother and child are free.

Workers, both men and women, are not permitted to work if infected by venereal disorders. They must be treated and the disease controlled. A vigorous campaign is being waged everywhere against syphilis. In workers' clubs, in schools, in sanatoriums or convalescent homes, and elsewhere, charts and wax figures vividly portraying the ravages of this disease on the reproductive organs and other parts of the body, are conspicuously exhibited.

I finally asked the doctor at Kharkov if he was perfectly satisfied with conditions as they applied to his profession. He replied that his task was the betterment of mankind in Russia and he was content in fulfilling his duty.

A surgeon connected with one of the principal hospitals in Leningrad, of Hebrew extraction, frankly stated that his social condition as a Jew had materially improved in Russia He received 300 roubles per month from the State; he did not practice privately.

In Yalta, Crimea, beautifully situated on the shores of the Black Sea and but a short distance from Sevastopole, I found a very interesting situation. Yalta was the favorite resort of the Imperial court and here was located "Livadia," the former palace of Czar Nicholas II. The hillsides overlooking the sea are dotted with beautiful villas, the former homes of aristocracy. These are now practically all used as sanatoriums and convalescent homes for Russian workers. Sixty-five villas, mansions and hotels are now used for this purpose. They accommodate about 7,000 patients. Livadia is a beautiful

palace overlooking the sea and sheltered from the winds of the north by nearby protecting mountains rising 3,000 to 4,000 feet. The gardens are filled with beautiful trees, shrubbery, roses and flowers, all luxuriant in their growth in this semi-tropical climate. I visited the sanatorium Livadia, at one time the czar's palatial home. I met the doctor in charge, a delightful gentleman; nine years a student in Paris, where he attended the Sorbonne; he also pursued his studies in Berlin as well as in his own country.

The palace and its adjoining buildings accommodate 1,700 patients, and 1,200 were present at the time of my visit, almost entirely Russian peasants. The staff—doctors, nurses and service help—numbered 500. It was just dinner time when I arrived, 2 to 3. The former glorious banquet hall, the adjoining imperial private dining rooms, were crowded with long narrow tables covered with oilcloths and in sharp contrast to the character of the rooms.

The crowd of patients filed in, all looking quite well and strong, and, judging by what I saw them eat, their appetites were equal to that of wood choppers. All were first served soup and a large hunk of bread. You should hear a thousand Russian peasants eating soup, their faces close to the bowl. Next large plates arrived with most generous portions of boiled rice and chicken, a feast that I am sure was rarely their lot when at home. When I remarked to the doctor that each plate contained enough for a family of four, he smiled and said, "Still they complain that they are not fed enough." It was amusing to see them eat; practically all the men sat with their caps on and all were far more adept in handling chicken with their fingers than with knives and forks. When they had finished their meal the table was strewn with the bare bones of chicken.

I later partook of this same wholesome fare, with the doctor, who invited me to dine with him. We ate in one of the smaller dining rooms, the lower portions of the walls panelled in mahogany, the upper decorated in red silk damask. My mind was constantly painting pictures of those earlier scenes that transpired in these same rooms; nobility dining in state; choice linen and silver, exquisite glassware and china, refined service; now what an extreme contrast,—oilcloth-covered tables, the food heaped on platters, no carpets nor rugs, only the bare floors from which the varnish and wax finish had been worn by the coarse boots of the peasants, exposing the grain in the wood of what was once a lovely parquet flooring. The walls of the room were bare, no draperies nor pictures. Some of the arched openings had plain rough board partitions installed with small doorways cut through. I wondered what marble staircases, panelled wood walls, frescoed ceilings, parquet floors, plate glass windows, meant to these peasants. Heavy boots, oilcloth-table covers, coarse table manners, cots to sleep on; what a contrast!

In a room on the second floor were colored pictures and physiological charts illustrating the ravages of syphilis, that these peasants might have clearly brought to their attention the terrors of this disease. Inasmuch as this sanatorium is given over almost entirely to peasants, in another large room were exhibits of cereals and charts illustrating the necessity of intelligent farming made possible by scientific research. Like illustrations were displayed on the subjects of animal husbandry and orcharding.

I later stood on the balcony adjoining the czar's former private sleeping apartments. It commanded a most charming view. Looking through the unobstructed windows I saw rows of cots on which were sleeping patients, for all are required to rest immediately after the noonday meal. What contrasting changes Russia has undergone! How amazing this New Russia!

I visited another sanatorium at Yalta. High up on the mountain side among the pine trees of an extensive forest, have been built two large stone buildings, a modern tuberculosis hospital costing 2,000,000 roubles. Sixty or seventy attendants were caring for approximately 300 patients, the full capacity being 400. I respectfully declined to go through the ward of the most serious cases, but did walk along the lengthy verandas filled with cots and resting patients. Just off the veranda were adjoining bed rooms, each accommodating three patients. In this sanatorium likewise considerable electrical apparatus was installed. A series of small cottages was also being constructed among the pines to care for additional sufferers. Altogether the plant was very modern and well operated.

In addition to the well appointed hospitals

in Leningrad and Moscow there are a surprising number of the finest villas in these cities, which were formerly the homes of Russian nobility, and which are now used as workers' convalescent homes, rest-houses or clubs. The rich interior finish and decorations are mute reminders of the former days of aristocracy; marble staircases and statuary, carved woodwork and silk wall coverings, all in striking contrast to the general appearance and dress of the present occupants of these mansions.

I visited a school of semi-medical character in Nizhni-Novgorod. In a department devoted to gynecology there was a group of students, entirely girls of ages from 14 to 16 years. They were taking a two year course, what appeared to me to be more on the order of the training given our nurses. A medical man was their instructor. There were specimens in glass jars illustrating maternity from conception to birth. There was even a model and a doll baby for illustrating proper birth delivery. These girls, after finishing the course, are required to attend and perform, in the presence of an experienced doctor, twenty-four successful deliveries of babies, after which they are given a certificate and consigned to their field of duty.

THE DOCTOR'S SOCIAL POSITION

The relative social position of the doctor remains about the same, that is his distance from the top and bottom of the social scale; the aristocrats and capitalists, formerly above him, are now below him, while the factory workers, formerly below him, have now in some respects been exalted above him. However, in so far as he is a scientific worker for State institutions, he is as highly regarded as any one in the land. To the extent that he holds back from participation in State activities he is frowned upon. His income is distinctly less than in former times; so is that of every one in Russia except the workers.

Most members of the profession are on government pay. Private practice is not illegal but it is looked upon with disfavor—sometimes favorable, sometimes unfavorable, according to the district and the variance of State programs. Doctors of former fame still have many private patients and enjoy an income larger than that paid to the government heads of the State—such as Stahlin or Kalinin. On the other hand, many of the younger doctors, though specialists of good standing, have scruples against private practice. Some give medical aid to acquaintances or needy persons, refusing pay, but accepting return courtesies of a professional character. The whole ethics on this point is in a state of flux. The same is true regarding the sympathy of the doctors with the government; it varies greatly. Many are very keen on the wide extension of sanatoria, some are covertly hostile; probably most are rather anti-political.

In the past few years tremendous efforts have been made to increase the number of doctors to meet the incredibly great demands of an awakening rural district. Courses have been shortened and undoubtedly quality has suffered. However, if you ask medical men if the short medical training that is now being given in Russia does not lower the standard of the profession, they will frankly admit that it does, but also add that doctors with two years training are better than no doctors at all. The Russia of the past was sadly lacking in sufficient doctors and medical facilities; to raise these conditions to a proper standard is a tremendous task.

On the other hand rural districts have better doctors and medical facilities than ever before and many more of them, since formerly they were very badly off with only midwives and felchers. Moreover, the rural system of attaching all doctors to a central hospital point, under the management of two or three trained physicians of long experience, eliminates some of the faults of this shortened training. The work of higher institutions of medical research, it is stated, has been probably improved and is, I understand, of high quality.

Hospitals are all government owned, either by the Department of Health or Social Insurance. Private hospitals would be illegal or in process of becoming so. There are many more hospitals than formerly, but they are still far from sufficient.

Difference is made as to the standing of patients, that is, as to wards or private rooms. The highest State officials usually get a private room in the Kremlin hospital, if the disease requires it. However, in sanatoriums the highest officials are often several in a room. Nursing service such as we know it in America is unknown and has always been so, I am told. A nurse, as one in Poland once said, "is to watch the pa-

tients, not to wash them." Some patients are dissatisfied; others think it is the most agreeable thing they ever experienced to go to a sanatorium or hospital. The latter are those of the lower classes who got little or no attention in former days. Medical service in the existing hospitals I believe is ample, with many attending specialists, but many more hospitals are still required.

I would say that a medical career in Russia offered no extraneous attractions. It offers the attractions of a reputation among one's peers, and a chance for a continuous advance in a field which especially interests some people. In this it resembles most other professions and callings in the Soviet Union today, being neither better nor worse paid than others. One additional fact might be mentioned. No doctor is any longer required to expend large sums of money for his training, thus acquiring in after years "an interest on his investment," so to speak. He is supported by the State while studying and is expected for this to give a certain term of service wherever he is sent,—usually in rural districts.

At a recent conference held in Moscow by scientists of Soviet Russia, among others, the following resolution was passed: (A clipping from a newspaper) "We shall actively aid in this unprecedented constructive activity. All our forces, all our knowledge, and all our ability, we shall devote to the creative work undertaken by the millions of toilers who are re-building our country upon socialist foundations. Physics, chemistry, biology, all the branches of science and technic, will go hand in hand with the struggle for the daring slogan launched by the proletariat and by its great party: to overtake and outstrip the capitalist countries in a decade."

In my opinion it is the intelligentsia, the men of science and medicine, spurred on by a desire to help mankind, that are making the great sacrifice in Russia.

I have often remarked that there should be a special reward in The Great Beyond for conscientious doctors,—ministers of mercy to suffering humanity, experiencing an avenue of approach to the innermost life and soul of man into which neither priest nor clergy are often permitted to enter.

FAMOUS MEN IN MEDICAL HISTORY

WILLIAM SHIPPEN, JUNIOR, AND THE EARLY DEVELOPMENT OF AMERICAN OBSTETRICS.*

CHARLES M. BURGESS, M.D.

William Shippen was born in Philadelphia in 1736. He was the son of a Dr. William Shippen, a distinguished physician of Philadelphia, and a grandson of Edward Shippen, an associate of William Penn in the founding of Pennsylvania. William Shippen, senior, a man of wide learning, was one of the founders and long a trustee of the College of New Jersey (now Princeton), a trustee in the College of Philadelphia (the University of Pennsylvania), vice president of the Philosophical Society, and the first physician appointed to the Pennsylvania Hospital.

William Shippen, junior, spent the early years of his life in Philadelphia. His father then sent him to Nottingham Academy—where, under the instruction of the Reverend Mr. Finlay, he became thoroughly acquainted with the classics. The fruit of this early training became evident later when as valedictorian of his class (1757) in the College of New Jersey he so impressed the famous preacher Whitefield with the eloquence of his Latin oration that he was urged by this worthy to enter the ministry—Whitefield declaring that he had never heard better speaking. However, young Shippen was destined to serve humanity in a different way. He returned to Philadelphia, and for three years studied medicine as an apprentice with his father. At the conclusion of this period he went to London. Here, he lived in the family of the famous John

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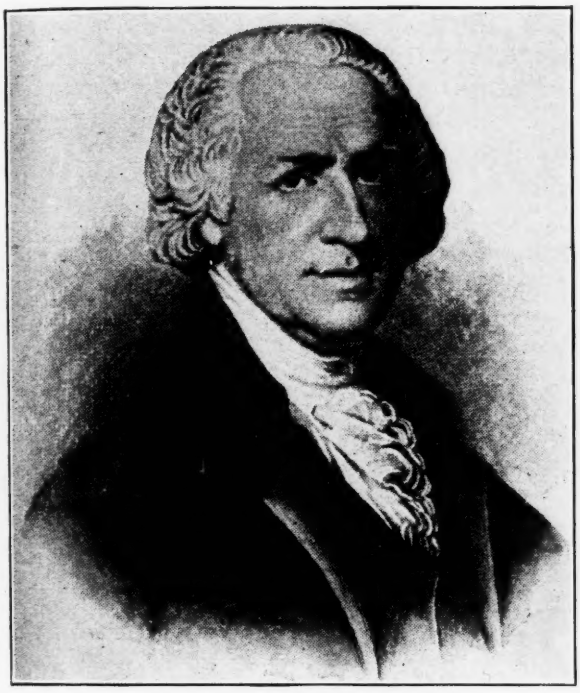
Hunter and studied anatomy and midwifery under the no less renowned William Hunter. Also, under Dr. McKenzie he studied obstetrics; under Dr. Pringle he became much interested in pathological anatomy; and elicited great interest from the celebrated Dr. Fothergill. In 1761 at Edinburgh he was granted his medical degree. He then spent some time in France as professional attendant upon a wealthy invalid. At this particular time France and England were at war, and it is interesting to note that it was only through the help of George II that he secured permission to travel in France.



WILLIAM SHIPPEN, JR.

While in that country he became acquainted with the celebrated Senac and other noted French physicians.

About this period he married his countrywoman, Miss Lee of Virginia, daughter of Thomas Lee, a gentleman of standing in the Colony, and President of the Governor's Council.

Young Shippen returned to Philadelphia in 1762—there to take up practice and teaching. Just previous to his return, Dr. Fothergill presented to the Pennsylvania Hospital a set of handsome anatomical paintings, and drawings, and models. This material, he expected Shippen to explain and to use in teaching. Also in a letter written to the hospital authorities, we find reference to the establishment of the first medical school in America, for in this letter he writes of the probability of Shippen establishing a medical school, and of Dr. John Morgan as an able young assistant in the project. Outside of any University connection, Shippen began to teach anatomy in the autumn of 1762, just as soon as weather would permit. In his very opening lecture he proposed the establishment of a medical school. This introductory lecture was delivered in one of the large apartments of the State House, and many of the gentlemen of Philadelphia heard it with pleasure. Later, his father constructed a lecture room for him in the rear of his home. The number of students who attended his course was only twelve; such was the origin of our first medical school. Benjamin Rush was one of the twelve pupils. After his first lecture, Shippen made the following announcement in the *Pennsylvania Gazette*:

"Dr. Shippen, anatomical lecturer, will begin tomorrow evening at six o'clock at his father's house in 4th street. Tickets for the course to be had of the Doctor at 5 pistoles each, and any gentlemen who incline to see the subject prepared for the lecture, and learn the art of dissecting, injecting, etc. are to pay 5 pistoles more."

Then for three years he lectured on anatomy and midwifery. In 1768 he was unanimously elected a Fellow of the Royal College of Physicians at Edinburgh. In 1778-9 and again from 1791 till 1802 he was one of the physicians of Pennsylvania hospital and for more than 40 years he was a member of the American Philosophical Society.

There is little doubt that some rivalry existed between Morgan and Shippen for the honor of being founder of the first medical school in this country and thus the father of American Medicine. Upon Morgan's election as professor of Theory and Practice of Physic, Shippen wrote to the trustees reminding them that the establishment of a medical school had been his dearest wish for seven years and that he had proposed the matter in 1762. He asked for the appointment as professor of anatomy and surgery. This was granted and for 26 years, save for the winter of 1776-7, his lectures were continued, hundreds of students coming under his instruction during that period and many of them completing their studies abroad. He was universally regarded as without a peer as a teacher. And here let

us pause, and remind ourselves that any success in teaching anatomy and obstetrics in those days required an outstandingly strong personality, for public opinion had not yet approved of dissections or of men midwives! Shippen met with violent opposition on the part of the populace, who stoned him and smashed on several occasions the windows of the house in which the dissections were performed. To allay this prejudice he announced in letters to the newspapers that the bodies he used were those of persons who had committed suicide or been legally executed, except "now and then one from Potter's field." In connection with his midwifery lectures he also established a small lying-in hospital "under the care of a sober, honest matron, well acquainted with lying-in women."

Wistar, one of his old students, in explaining the success of Dr. Shippen in teaching anatomy, says that we may take into view another faculty which he exerted with great effect. "He went through the substance of each preceding lecture by interroation instead of recapitulation, thus fixing the attention of the students; and his manner was so happy that this grave process proceeded like a piece of amusement. His irony was of a delicate kind and so blended with humor that he could repress forwardness and take notice of negligence so as to admonish his class without too much exposing the defaulter."

It is very likely that the rivalry existing between Morgan and Shippen in the founding of the medical school led to the quarrels between these men in the Revolutionary days. Scandalous charges and other troubles were experienced by each as director general of the Hospital, all of which was much out of keeping with their great personalities.

Briefly, during this period, Dr. Shippen was appointed director of the Hospital of the Flying Camp in New Jersey in July 1776. In April of the following year he was appointed by Congress as director general and physician in chief of the Hospital. Dr. Morgan had been dismissed from this position in the previous January. Morgan at once sought vindication and was granted this by Congress in 1779. Serious charges were continued against Shippen by Morgan, Benjamin Rush, James Tilton and others. He was brought to trial before a military commission in August, 1780, and was honorably acquitted. He resigned from the service in January, 1781, and returned to private practice and teaching, becoming equally distinguished in the teaching and practice of obstetrics. This followed for some 10 to 12 years.

It was during this period that he effected a great change in the habits of the city. We must not forget that still in Philadelphia at this time there were very few occasions where medical men were employed to conduct a childbirth case. It was only when something very important was to be done that they were resorted to, and very often when it was too late. This was altogether the effect of prejudice and not of necessity; even the best obstetrical practitioners attended very few natural labors. Shippen dispelled this prejudice so that in the course of ten years he became very fully employed as an obstetrician.

Then came the illness of his only son, in whom he was more than commonly interested, for this young man promised a brilliant future. In six years the illness was terminated by death. Then Shippen began to lose interest in the things about him and thereon sought solace in religion, gradually relinquishing his practice and teaching, until some 10 years later his health began to fail, he developed a hydrothorax which compelled him to give up work, and shortly after retiring to Germantown he was afflicted with an attack of anthrax which caused his death on the 11th of July, 1808.

From one who had known him personally we learn that—"Nature had been uncommonly bountiful in his form and endowments. His person was graceful, his manners polished, his conversation various and the tones of his voice singularly sweet and conciliatory. In his intercourse with society he was gay without levity and dignified without haughtiness or austerity. He belonged to a family proverbial for good humor. His father, whom he strongly resembled in this respect, during the long life of 90 years had scarcely ever been seen out of humor. He was also particularly agreeable to young people. Known as he was to almost every citizen of Philadelphia, it is probable that there was no one who did not wish him well."

It is of interest to note the advertisement for his first course of lectures on midwifery which began as follows:

"Dr. Shippen, Jr., having been lately called to the assistance of a number of women in the country

in difficult labors, most of which were made so by the unskilled old women about them; the poor women have suffered extremely and the little ones were entirely destroyed, whose lives might have been easily saved by proper management; and being informed of several desperate cases in the different neighborhoods which had proved fatal to the mothers, as well as to their infants, and were attended with the most painful circumstances, too dismal to be related; he thought it his duty immediately to begin his intended course of lectures on midwifery, and has prepared a proper apparatus for that purpose, in order to instruct those women who have had virtue enough to own their ignorance, and apply for instruction, as well as those young gentlemen, now engaged in the study of that useful and necessary branch of surgery who are taking pains to qualify themselves to practice in different parts of the country, with safety and advantage to their fellow creatures."

THE EARLY DEVELOPMENT OF AMERICAN OBSTETRICS

Before we can properly appreciate the advances made in early American Obstetrics we must first hastily survey the progress—a better word would be change—in this art and science that took place through the centuries preceding the settling of America.

For many centuries, during the early history of the world, there is no knowledge of any assistance being rendered to a woman during parturition. The process is a physiological one, and people in that age lived under physiological conditions. Woman was unaided—she was strong because natural selection had sent the weak to early graves. The pelvis was large and its bones elastic because no restricting clothing had been worn. The joints were movable and permitted of a great deal of extension because the first child was born as soon as possible after puberty, while the tissues of the body still possessed the yielding pliability of youth. The heads of the children were soft and compressible because the diet of the mother consisted of uncooked foods—raw meat, fresh fruits, nuts and roots.

Esthetic education makes the human race susceptible to pain. Not so in the early days; the more tenderly people are reared, the more sensitive they become to bodily injuries. So, in remote times, the mothers of our race gave birth to their children without complaint and for the most part without suffering. The Indian squaw gave birth to her offspring without any evidence of pain that we are familiar with among the white races. Usually, she retired into the forest alone, was delivered without assistance, arose, washed herself and child in the water of some neighboring brook or pond, wrapped the baby in a piece of fur or blanket, and then hurried on to join the rest of the tribe. There was no confinement to bed for an indefinite period of time. However, if the labor of the primitive mother was difficult, assistance of the straightforward type might be called into play. She was picked up by the feet and shaken head down, or rolled and bounced on a blanket—or, as was formerly done among some of the tribes of American Indians, labor was hastened by placing the woman on the prairie and having a horseman ride at her with the apparent intention of trampling her. Although the rider turned aside at the last moment, the fear inspired in the woman was sometimes effective in shortening her labor.

The art of caring for the child-bearing woman was fairly well developed at the peak of the Egyptian, Greek, and Roman civilizations. The Middle Ages were the most unfortunate period in the history of womankind. Complete ignorance prevailed without the intuitive skill of the primitive period and without the knowledge of previous civilizations. Religion took over the supervision of the prostitutes and the oversight of the practices of the midwives. The instructions and edicts issued by the monks were not, however, for the better care of the childbearing woman but rather to save the child's life for a sufficient time to allow it to be baptized. Thus it was typical of the age that attempts were made to form intra-uterine baptismal tubes, by which the child, locked by some ill chance in its mother's womb, could be baptized and its soul saved before the mother and child were left to die together. Nothing was done to save their lives. In the words of Haggard, "no greater crimes were ever committed in the name of civilization, religious faith and smug ignorance than the sacrifice of the lives of countless mothers of children in the first fifteen centuries after Christ among civilized mankind." Decidedly is this no exaggeration, for during the age of the medieval Christian the treatment accorded the childbearing woman was worse than the mere neglect among primitive peoples, because they saw in childbirth the result of a carnal sin to be expiated in pain. Her suffering was augmented by the fact that she was no longer a primitive woman, as well as the fact that civilization was bringing with it urbanization, cross-breeding

and spread of disease, all of which has made childbearing often unnatural and hazardous.

With the Renaissance there came a change in the care given the childbearing woman. This change was slower in advancing than were many of the other changes which marked this period. Material advancement is always made before humanitarian. Modern science has happily intervened and with it better obstetrics. There are two arts in medicine which can be traced to earliest records, and which of necessity received attention from the earliest civilizations: one is the healing of wounds, the other is the delivery of children. Women who had themselves borne children, and were thus taught by experience, assisted their neighbors just as warriors or hunters exposed to injury rendered aid to their injured fellow men. As the organization of the community advanced, some of these women who assisted at childbirth did so regularly, and eventually made it a calling. Thus arose the midwife, at first a blessing and a comfort but later one of the greatest impediments to the advancement of the obstetrical art. Assistance at childbirth was looked upon as a woman's work, and, because of the type of women who plied this trade, progress was impossible. The aid of the priest or man possessed of mystical power, and later the physician, was called in difficult cases only when the efforts of the midwife failed. It is only at the peak of ancient civilizations and quite late in our own that the physician personally took charge of labor in occasional cases.

The ignorance of men concerning the subject of midwifery is shown by an expression of a Dr. Culpepper in his book on Obstetrics published about 200 years ago. He remarked that he would have known more about the subject if he had ever witnessed a case of confinement! He bewailed the fact that he did not live in Holland, for there it was the custom for the wives to be confined on the laps of their husbands, and if such had been the case he might have had plenty of information, as he was the father of twelve children! The exclusion of men from the study of the child-bearing woman rose in some instances to fanatical heights. Dr. Wertt of Hamburg in 1522, put on the dress of a woman to attend and study a case of labor. As a punishment for his impiety he was burned to death. In 1513 Eucharius Roslin, who had probably never seen a child born, wrote a book of instruction for midwives. He may have felt something of the humor of his position for the title of his book is "The Garden of Roses for Pregnant Women and for Midwives." However, customs of the time were changing; trained and supervised midwives were a step toward the betterment of the childbearing woman, and the next step was the participation of the physician himself in midwifery. It became the fashion for ladies of the court to have male midwives. The title of accoucheur was given to replace the somewhat derisive appellation of man midwife or midman, or other contemptuous names which were often used to belittle physicians who practiced obstetrics. Thus, when Dr. Wm. Smellie in the 18th century established a school in London for teaching midwifery, he was christened by his competitor, Mrs. Nihell, the Hay-Market midwife, a "great-horse-grandmother of a he midwife." But the attempts of the physicians to practice obstetrics were met with opposition. Except in the case of royalty the male physician encountered prudery which rose to amazing heights. Sometimes he was forced to tie one end of a sheet to his neck and the other end to his patient's neck; while the view of both parties was unobstructed above this guard, the physician could not see beneath it. He made his manipulations blindly, but he spared his patient's blushes. The opposition to the participation of physicians in obstetrics did not cease altogether until nearly the present century. As late as the forties of the 19th century John Stevens of London denounced and exposed in his pamphlets "the danger and immorality of employing men in midwifery." He dedicated his efforts to the Society for the Suppression of Vice. The obstetrician of today is no longer exposed to condemnation and open derision. Nevertheless in those countries which are backward in their cultural development there still exists a remnant of the earlier attitude; it is shown in a certain evident if unspoken belittlement of the physician who assists the childbearing woman. He is felt by some people to be of lower caste than physicians in other branches of the medical profession.

It is the popular belief that Julius Caesar came into the world as the result of the cesarean section. This has been disputed,

however. At this time there was a law in Rome which required that the operation be performed upon a woman dying during the last few weeks of pregnancy. The law existed during the reign of the Caesars, hence was known as the cesarean operation. Capar Bauhm tells us that the first cesarean section performed upon a living woman was done in 1500 A. D. by one Jacob Nufer, a castrator of pigs, residing at Sigerhausen, Switzerland, with the recovery of the woman after the midwives and barbers had given her up to die.

Pare, re-introducing podalic version, and Vesalius, first showing the true relation of the bones of the pelvis, both loom high in the history of obstetrical art.

Toward the end of the 17th century Mauriceau made the bold innovation of having his patients delivered in bed and had dispensed with the obstetrical chair, whose antiquity was greater than the Bible. In spite of the innovation, the obstetrical chair held its supremacy and the brides of Holland continued to provide them with their trousseaus until the nineteenth century.

The introduction of the obstetrical forceps, retarded as it was by the charlatan Chamberlen family, was one of the greatest landmarks in obstetrical history. DeLa-Motte, obstetrician of Volgens, criticizes the Chamberlens with these biting words—"He who keeps secret so beneficial an instrument as the harmless obstetrical forceps deserves to have a worm devour his vitals for all eternity."

Late in the 18th century, great impetus was given to obstetrics by the work of William Hunter on the gravid uterus, which was published in 1774. He helped in a great measure to establish the dignity of obstetrics and to elevate it to the position of a science, in short to open the way to its rapid progress. His work has been referred to as being to obstetrics what that of Euclid was to mathematics.

Obstetrical practice remained in the hands of the surgeons although the revival of podalic version and the invention of the forceps reduced the number of cases in which it was necessary to destroy the child. There developed a tendency to use instruments wherever possible. The general use of the obstetrical forceps gave even a wider play to this habit of "meddlesome midwifery." The surgeons, moreover, could not resist carrying with them into the obstetrical field the practice of blood-letting, and the parturient woman was bled for prophylaxis if everything seemed normal and for treatment if everything seemed abnormal. Finally there was a reaction against this operative interference and the obstetrical art was no longer taught as a branch of surgery.

Three prominent eras stand out in the science of obstetrics:

1. Invention and use of forceps.
2. Discovery and use of anesthesia.
3. Discovery and advocacy of germ theory as developed by Pasteur.

The science of obstetrics of such recent birth in Europe had not yet arrived in America, with the foundation of this republic. There was little evidence of its existence for the next quarter of a century. Here was a young country sparsely settled, struggling for independence. Until 1783 attention was entirely drawn from the pursuits of peace; agriculture, manufacture, science, art were all neglected. The establishment of peace found the country entirely unprepared at once to resume those pursuits to which it had so long been a stranger. People were impoverished, land unproductive, credit of the country was not yet established, and its exchequer was empty. Immediate material wants of the inhabitants claimed their almost undivided attention. Gaillard Thomas rightly expresses it when he says: "As an art, practiced by midwives, obstetrics was a vigorous plant, deep-rooted and strong; as a science, a delicate shoot, which feebly struggled with adverse circumstances for life; while the very seed of the sister branch of gynecology may be said to have been unsowed."

In spite of the prejudice of the community, at an early period even in colonial times a very small number of physicians, recognizing the claims of obstetrics, devoted themselves to its practice. In 1753 Dr. James Lloyd, a pupil of Smellie and Hunter, settled in Boston, and in the following year systematically began the practice of midwifery. He was the first practitioner so devoting himself, of whom records can be found. In 1762 the same course was pursued by Dr. Wm. Shippen, Jr., of Philadelphia; and these two pioneers in obstetrical science began the great work here which Smellie, Hunter and others were striving for abroad, of placing this important branch

upon a level with the sister departments of medicine and surgery. The success of their efforts may be judged by the facts that in 1762 Dr. Shippen delivered a course of lectures upon obstetrics; that in 1767 Dr. Tennant was appointed to a special chair on this subject in New York; and that thus introduced as a distinct department into the curriculum, the subject has to the present day been recognized as one of paramount importance and dignity.

During this period, essays were written by Orne, Osgood and Holyoke upon pudendal hematocele, Sigautian operation, rupture of the uterus, retroversion of the gravid uterus, extra-uterine pregnancy, and numerous case reports, evidencing an effort in the right direction. In 1791 a laparotomy for removal of an extra-uterine fetus was successfully performed by Wm. Baynham upon the wife of a Virginia planter. He operated with similar success upon a negro slave in 1799. Before Baynham's first case the operation had been only once performed in this country, namely in colonial times, by John Bard of New York, in 1759. Subsequently, it was repeated by Wishart and Alexander H. Stevens.

The dawn of the 19th century found the United States ripe for progress and advancement, and while it was yet young the lamp of medical science began to burn with a brightness which it had not shown before, and which promised well for the future. The way to progress in obstetrics was pointed out by the great Englishman, Hunter; and in the very first year of the new century a similar impulse was given to gynecology by the eminent Frenchman, Recamier. The greatest advances which have been made in the science and art of medicine in modern times have all been due to the subordination of facts to physical investigation and demonstration. At the commencement of the 19th century such influence was evoked in behalf of gynecology in the speculum uteri with which Recamier, in 1801, began the study of the diseases of female sexual organs. In 1807, ergot was first introduced into materia medica as an oxytocic by John Stearns, first president of the New York Academy of Medicine. Also in 1807, the first work upon obstetrics which appeared from the pen of a native author was that of Dr. Samuel Bard, of New York. I would like to quote one of Bard's cases from his compendum of the "Theory and Practice of Midwifery."

"*Case 115.* A poor woman, 60 years of age, complained of a tumor which hung down from the external parts between her thighs, attended by a discharge of mucus and of pus, so profuse in quantity as to make her extremely weak. Upon examination of the tumor, it appeared to be an inverted uterus, the whole surface of which was in a state of ulceration; above the tumor was the vagina, also inverted, having partial ulceration upon it; her sufferings, though not acute, were sufficient to interfere with her comfort; and her increasing weakness made her readily consent to the performance of an operation for the removal of them. A ligature was applied around the contracted part of the tumor; that is, where the uterus terminated, and the vagina began. It was tightened daily, until about the 11th or 12th day, when the parts included in the ligature were absorbed and the uterus fell off; during this time the patient complained of very little pain; adhesion had taken place between the sides of the vagina, so as to prevent the exposure of the cavity of the abdomen, and the woman recovered. After an operation of this kind, the vagina should be returned to its natural situation, and it should be kept there by a hollow globular pessary."

DR. WILLIAM SHIPPEN, JR.

(Reproduced from Packard's *History of Medicine in the United States*).

After reading such an account, how impressed one is with the giant strides made in obstetrics and gynecology in the last century —truly a complete story in itself.

James R. Chadwick, long an authority in this field, made a close observation and study of the art and science of obstetrics and gynecology in most of the countries of Europe, and he came to the conclusion that in these studies America leads the world.

Certainly, America has done her share in the past. And, judging from the present, she will be responsible for much that is advanced in the future in this great branch of medicine.

OAKLAND COUNTY MEDICAL SOCIETY

The City of Pontiac and Oakland County are in the limelight of Michigan medicine this present year owing partly to the fact that the annual meeting of the Michigan State Medical Society, as announced, will be held at Pontiac in September and also to the fact that it is the one hundredth anniversary of the founding of the Oakland County Medical Society. Dr. C. A. Neafie, Medical Health Officer for Pontiac as well as Councillor for the 15th district of Michigan, has prepared a history of Oakland County which we expect to print in these pages during the coming months. The re-organization of the Oakland County Medical Society took place on Sept. 9, 1902. The following contribution consists of the minutes of the first reorganization meeting, which minutes have been supplied us by Dr. Neafie.—EDITOR.

RE-ORGANIZATION OF THE OAKLAND COUNTY MEDICAL SOCIETY

September 9, 1902, pursuant to a circular letter issued by Dr. Colonel Bell Burr of Flint, Michigan, the Councilor of the Sixth District, and a call sent out by Drs. Mason W. Gray, Jason Morse, George H. Drake and William McCarroll, the Executive Committee of the Pontiac Medical Society, members of the Medical Profession in Oakland County, Michigan, assembled in the Council Chamber of the City of Pontiac.

Dr. Burr called the meeting to order.

Dr. Franklin B. Galbraith was chosen President of the meeting and Dr. W. McCarroll, Secretary.

Dr. Burr briefly stated that the object of the meeting was to organize an Oakland County Medical Society which would be a component part of the Michigan State Medical Society.

Dr. James C. Willson, the Vice President of the Michigan State Medical Society, also made an address showing what was being done in this line in other parts of the state, and benefits which would accrue to the Profession from such organizations.

A motion was made by Dr. Edmund A. Christian that "We hereby resolve ourselves into a County Medical Society." This was amended by Dr. Gray by adding the words "in accordance with the plan proposed by the American Medical Association and the Michigan State Medical Society," and in that form was passed unanimously.

A Committee composed of Drs. Gray, Morse, Christian and McCarroll were appointed to prepare a Constitution and By-Laws for the Society and their report on motion of Dr. Nenian T. Shaw was read at length by Dr. McCarroll.

Dr. John L. Campbell moved that the Constitution and By-Laws as read be accepted and adopted, which motion was carried unanimously after the dates for the annual and regular meetings had been chosen and the annual dues had been fixed. The motion of Dr. Christian, "that we now proceed to organize by the election of officers," was carried without dissenting votes. Drs. Charles M. Raynale and Joseph J. Moore were appointed tellers. Nominations by informal ballot for President were made; and then Dr. Christian moved that the Secretary cast the vote of the Society for Dr. F. B. Galbraith for President for the year and this also carried unanimously.

Dr. DeWitt Clinton Wade was elected Vice President. Dr. W. McCarroll was elected Secretary-Treasurer, and Drs. C. M. Raynale, E. A. Christian and M. W. Gray were elected members of the Board of Directors.

List of Charter Members of the Oakland County Medical Society who on September 9, 1902, authorized the Secretary thereafter to sign their names to the Constitution and By-Laws that day adopted at Pontiac, Michigan.

Joseph J. Moore	Farmington
Charles M. Raynale	Birmingham
DeWitt Clinton Wade	Holly
Robert LeBaron	Pontiac
Nenian Thomas Shaw	Birmingham
William Aitcheson	Ortonville
Talmage Herbert Prust	Pontiac
Geo. H. Drake	Pontiac
Jason Morse	Pontiac
John L. Campbell	Birmingham
Harvey S. Chapman	Pontiac
Carlton D. Morris	Pontiac
Edmund A. Christian	Pontiac
Stuart E. Galbraith	Pontiac
Daniel G. Castell	Holly
Virgil H. Wells	Pontiac
Reuben G. Dean	New Hudson

John C. Black	Milford
Aileen M. Betteys (Corbit)	Oxford
George W. MacKinnon	Oxford
B. C. H. Spencer	Rochester
John W. Fox	Orion
Nathan B. Colvin	Pontiac
Franklin B. Galbraith	Pontiac
Harry C. Guillot	Pontiac
William McCarroll	Pontiac
John H. F. Mullett	Pontiac
James J. Murphy	Pontiac
Robert Y. Ferguson	Pontiac
Mason W. Gray	Pontiac
Anna Jay Clapperton	Pontiac
Guy C. Conkle	Pontiac
Irwin H. Neff	Pontiac

BOARD OF DIRECTORS OAKLAND COUNTY MEDICAL SOCIETY

Year	
1902	C. M. Raynale, Birmingham; E. A. Christian, Pontiac; M. W. Gray, Pontiac
1903	E. A. Christian, M. W. Gray, N. B. Colvin, Pontiac
1904	E. A. Christian, R. LeBaron, Pontiac; N. B. Colvin, Pontiac
1905	E. A. Christian, W. McCarroll, N. B. Colvin, Pontiac
1906	E. A. Christian, M. W. Gray, E. Orton, Waterford
1907	E. A. Christian, M. W. Gray, N. B. Colvin
1908	E. A. Christian, M. W. Gray, N. B. Colvin
1909	H S. Chapman, M. W. Gray, N. B. Colvin
1910	H. S. Chapman, C. D. Morris, D. G. Castell, Pontiac
1911	R Y. Ferguson, G. W. Drake, M. W. Gray
1912	R. Y. Ferguson, G. W. Drake, M. W. Gray
1913	
1914	R Y. Ferguson, M. W. Gray, N. B. Colvin
1915	Wm. McCarroll, H. A. Sibley, Pontiac; F. S. Bachelder, Pontiac
1916	Wm. McCarroll, H. Sibley, Pontiac; F. S. Bachelder, Pontiac
1917	Wm. McCarroll, N. T. Shaw, Birmingham; S. A. Butler, Pontiac
1919	R. Y. Ferguson, E. Orton, C. J. Southerland
1920	A. W. Newitt, Birmingham; Geo. P. Raynale, Birmingham; H. A. Sibley
1920	Fred A. Baker, Pontiac; Geo. P. Raynale, D. G. Castell
1922	J. H. Neff, Birmingham; L. A. Farnham, D. G. Castell
1922	R. Y. Ferguson, F. A. Mercer, J. J. Murphy
1923	R. Y. Ferguson, Fred Baker, D. G. Castell
1924	R. Y. Ferguson, J. S. Morrison, A. V. Murtha
1925	R. Y. Ferguson, Peter Stewart, D. G. Castell
1926	R. Y. Ferguson, L. F. Cobb, D. G. Castell
1927	R. Y. Ferguson, B. M. Mitchell, H. A. Sibley
1928	R. Y. Ferguson, B. M. Mitchell, H. A. Sibley
1929	R. Y. Ferguson, F. A. Baker, Robert H. Baker
1930	F. A. Mercer, F. B. Gerls, A. V. Murtha

OFFICERS OF THE OAKLAND COUNTY MEDICAL SOCIETY

Year	*President*	*Vice President*	*Secretary-Treasurer*
1902	F. B. Galbraith, Pontiac	D. W. C. Wade, Holly	Wm. McCarroll, Pontiac
1903	D. W. C. Wade, Holly	J. J. Moore, Farmington	Wm. McCarroll, Pontiac
1904	Wm. McCarroll, Pontiac	C. J. Southerland, Clarkston	M. W. Gray
1905	R. LeBaron	C. J. Southerland, Clarkston	M. W. Gray
1906	J. J. Moore	G. W. MacKinnon, Oxford	C. D. Morris, Pontiac
1907	G. W. MacKinnon	T. E. McDonald, Holly	C. D. Morris, Pontiac
1908	C. J. Southerland	T. E. McDonald, Holly	J. T. Bird, Clarkston
1909	T. E. McDonald	E. A. Chapman, Walled Lake	J. T. Bird, Clarkston
1910	E. A. Chapman	E. A. Christian	R. Y. Ferguson, Pontiac
1911	E. A. Christian	Wm. McCarroll	J. B. Chapman, Pontiac
1912	C. M. Raynale	J. S. Morrison, Royal Oak	J. B. Chapman, Pontiac
1913	J. S. Morrison		J. J. Murphy, Pontiac
1914	J. A. Miller	P. D. Hilty, Birmingham	J. J. Murphy, Pontiac
1915	P. D. Hilty	E. F. Holcomb, Farmington	F. B. Gerls, Pontiac
1916	E. F. Holcomb	F. S. Bachelder	F. B. Gerls, Pontiac
1917	F. S. Bachelder	S. E. Galbraith, Pontiac	H. A. Sibley
1919	N. T. Shaw	S. E. Galbraith, Pontiac	D. G. Castell
1920	R. Y. Ferguson	F. B. Gerls	C. A. Neafie, Pontiac

Year	*President*	*Vice President*	*Secretary*	*Treasurer*
1921	H. A. Sibley	F. A. Mercer, Pontiac	A. V. Murtha, Pontiac	Robt. H. Baker
1922	Geo. P. Raynale	D. G. Castell	P. D. Hilty	Robt. H. Baker
1923	D. G. Castell	F. B. Gerls	Fred A. Baker	Robt. H. Baker
1924	F. B. Gerls	Peter Stewart, Royal Oak	L. F. Cobb	Robt. H. Baker
1925	N. B. Colvin	I. H. Neff	L. F. Cobb	Burton M. Mitchell
1926	N. B. Colvin	I. H. Neff	F. S. Bachelder	Burton M. Mitchell
1927	N. B. Colvin	F. A. Mercer	Fred Baker	Isaac C. Prevette
1928	F. A. Baker	F. A. Mercer	C. A. Neafie	Isaac C. Prevette
1929	F. A. Baker	D. G. Castell	C. A. Neafie	Isaac C. Prevette
1930	B. M. Mitchell	John S. Lambie	C. A. Neafie	Geo. A. Sherman
1931	L. A. Farnham	Robert H. Baker	C. A. Neafie*	Geo. A. Sherman

*Resigned May 20, 1931. Succeeded by Donald F. Hoyt.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner
LANSING, MICHIGAN

MICHIGAN DIVORCES—1930

For the first time, we are able to present divorce statistics relating to the duration of the marriage. We append a table which gives the duration of marriage as indicated in the more than 10,000 divorces granted in Michigan in 1930.

Years of Marriage	Number of Divorces
Under 1	382
1	630
2	856
3	820
4	797
5-9	3,054
10-14	1,829
15-19	966
20-24	584
25-29	344
30 and over	218
Unknown	56
Annulments	103
Total	10,639

It will be observed that the greatest number of divorces had a marriage duration of less than five years, 32.2 per cent falling in this group, while 29.1 per cent had a marriage duration of from five to nine years, and 17.5 per cent from ten to fourteen years. The greatest number of divorces in any single year of marriage duration occurred during the second year, when there were 856, or 8.2 per cent.

Very significant, however, is the fact that there were 382 divorces, or 3.6 per cent, where the marriage duration was less than one year. On the other extreme, there were 218 divorces, 2.1 per cent, where the marriage had endured for thirty years or more. These figures surely invite sociological research.

It is interesting to note that Wayne County, with 39 per cent of the population of the state, furnished 54.0 per cent of the divorces. During 1930 there were 29,482 marriages in the state, which is equivalent to 2.8 marriages to each divorce. Where relatively a few years ago about ten per cent of marriages ended in divorce, the record for 1930 was more than 35.0 per cent. In Wayne County there were 12,127 marriages and 5,477 divorces, or 2.2 marriages to each divorce, or, stated otherwise, about 45 per cent of the marriages ended in divorce.

This comparison of marriage with divorce is perhaps not quite fair because many marriages take place outside of the state, whereas divorce must be in the place of residence. The recent enactment of the so-called Five Day Law in Ohio, requiring five days to elapse between the time of application for the license and its issuance, will undoubtedly reduce the number of hasty marriages and elopements.

The cause for divorce is not given in such detail as to permit any intelligent study. More than 83 per cent of the records give the cause as cruelty, either alone or in addition to some other cause, and it is obvious that the statement of cruelty does not disclose the real facts. A tabulation of causes given follows:

Cause of Divorce	Number
Cruelty	5,500
Non-support	607
Desertion	791
Drunkenness	11
Infidelity	20
Imprisonment	34
Fraud	3
Insanity	3
Cruelty and Non-support	2,569
Cruelty and Desertion	436
Cruelty and Drunkenness	41
Cruelty and Infidelity	52
Non-support and Desertion	226
Non-support and Drunkenness	19
Non-support and Infidelity	5
Desertion and Drunkenness	3
Desertion and Infidelity	3
Cruelty, Non-support and Desertion	171
Cruelty, Non-support and Drunkenness	36
Cruelty, Non-support and Infidelity	6
Annulments	103
Total	10,639

W. J. V. D.

DR. SLEMONS RECEIVES DEGREE

The degree of Doctor of Public Health was conferred upon Dr. C. C. Slemons, Michigan Commissioner of Health, by the Detroit College of Medicine and Surgery on June 18, at the regular Commencement exercises of the college.

The diphtheria prevention program carried on in Grand Rapids under Dr. Slemons' direction as Health Officer was the work upon which the degree was granted. A description of the plan of procedure and the results accomplished constituted Dr. Slemons'

thesis. In presenting Dr. Slemons for his degree, Dr. W. H. MacCraken, Dean of the Faculty, cited "his outstanding work in public health."

Dr. Slemons' thesis proves that diphtheria can be eliminated as a cause of death in a community by intensive and continued effort.

DR. BUNNEY HONORED

Dr. W. E. Bunney, Associate Director of the Bureau of Laboratories of the Michigan Department of Health, was elected to membership in the American Society of Immunologists in June. This honor was conferred upon Dr. Bunney in recognition of his work in diphtheria toxin and toxoid.

DR. MURPHY RETURNS

Dr. W. J. Murphy, Medical Inspector on the staff of the Bureau of Epidemiology, has returned to Lansing after a year's study in the Harvard School of Public Health.

CHILD HYGIENE ACTIVITIES

Women's Classes in Oceana County, conducted by Dr. Ida M. Alexander, have been completed, and Dr. Alexander is now carrying on a series of classes in Ontonagon County.

Helen Linn, R.N., is conducting a special series of nutrition talks in rural sections of Chippewa County.

Esther Nash, R.N., is in Huron County, organizing for a breast feeding survey and for a series of Child Care Classes in the fall.

Clare and Newaygo Counties have just had breast feeding surveys, conducted by Bertha Cooper, R.N., and Julia Clock, R.N.

Eaton County has the services of Caroline Hollenbeck, R.N., who is carrying on a prenatal and infant nursing service.

ROADSIDE WATER SURVEY

Work on the annual survey of roadside drinking water supplies used by highway travelers, carried on since 1925 by the Bureau of Engineering, was started on May 25th, when two representatives of the bureau left Lansing for the southeastern part of the state to begin the collection of water samples for analysis.

The plan of procedure for this summer will follow closely that observed last year. Inspection of sources of supplies and collection and testing of samples will be followed by posting of approved supplies. Work will be done on all trunk line highways and on a few of the more heavily traveled county roads.

The 1930 survey included inspection of, and analysis of samples from, 1,871 sources of drinking water in both the lower and upper peninsulas. One interesting phase of progress shown by the report of the summer's work was the lessening of distance between sources tested. In 1927 the average distance between sources of supplies was 6 miles. In 1928 this dropped to 4.66 miles. In 1929 it was 4.06 miles, and in 1930 it reached the low point of 3.81 miles.

The results of the roadside water surveys for the six years during which the work has been carried on are shown in the following brief tabulation:

Year	Miles Covered	Sources Tested	Number Safe	Per Cent Safe
1925	1787	427	272	63.7
1926	5479	805	619	76.3
1927	7190	1196	1000	83.6
1928	6435	1380	1159	84.0
1929	7797	1874	1583	84.5
1930	7246.8	1871	1617	86.4

CALCIFICATION OF INTRARENAL ARTERIES GIVING ROENTGEN APPEARANCE OF CALCULI

George Winthrop Fish and Leonard A. Hallock, New York, report a case of calcification of the walls of the large introrenal branches of the renal arteries in such a way that it gave the roentgenologic appearance of calculi or tuberculous calcification. Although calcification of this type has occasionally been noted at the postmortem table, so far as the authors have been able to determine there are no reports in the literature of a case similar to the one they observed and only a few vague references as to the possibility of its occurrence. This case is of peculiar diagnostic interest to the roentgenologist, internist, surgeon and urologist alike, as shadows such as these, though less numerous, are perhaps not infrequently seen, and, when associated with pyuria, hematuria or pain, offer a difficult diagnostic problem between calculus disease of the kidney and tuberculosis. In the light of this case it seems probable that such shadows associated with hematuria have been diagnosed as renal calculi and operations performed that were unsatisfactory to patient and surgeon alike.—*Journal A. M. A.*

THE JOURNAL

OF THE

Michigan State Medical Society

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All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M.D., 2642 University Avenue, St. Paul, Minnesota, or Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

AUGUST, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—*Francis Bacon*

EDITORIAL

THE ANNUAL MEETING

The 111th annual meeting of the Michigan State Medical Society bids fair to be one of the most successful in its history. Oakland County Medical Society, the host, is putting forth its best efforts in the way of providing entertainment. The event also provides a fitting occasion for the celebration of the centennial of the founding of the Oakland County Society.

The local medical society is putting forth its best efforts to stimulate health consciousness in the schools. Dr. Morris Fishbein, editor of the Journal of the American Medical Association, will deliver an address. Prizes, totalling $300, will be offered teachers and others writing the best résumé of Dr. Fishbein's address. There will be a health exhibit open to the laity and various health talks will be presented to the public by prominent men in the profession.

Those in charge of the scientific program of the Michigan State Medical Society are doing their best to equal if not excel the efforts of former years. This number of the Journal contains the preliminary program, which will give a fairly good idea of the feast in store for those who attend. The complete program will be printed in the September number of this Journal.

Since much of today's travel is by automobile, and the highways were never better, there should be a large representation of physicians from all over the State. Of course those from surrounding counties will be there in full force.

A LAYMAN'S VIEW OF MEDICAL RUSSIA

Elsewhere in this number of the Journal it is our pleasure to present to our readers observations made on the medical situation in Russia. Russia is now in the limelight as a great social experiment, of which, from its very nature, medicine also partakes. There are few laymen in a better position than Colonel George, the author of the paper, to observe and to draw trustworthy conclusions on such a subject. Colonel George insists on first hand knowledge, the opportunity for which came to him during the early months of this year, when he made a special trip to Russia, where he remained a number of weeks a student of social conditions, including those pertaining to medicine as it obtains in Russia. Colonel George is an impartial and unprejudiced observer. His experience as a world traveller has peculiarly fitted him for his self imposed task. He gives us the results of his observations so that we may view the situation through his eyes.

The investigation was made at the suggestion of Dr. Andrew P. Biddle, Ex-President of the Michigan State Medical Society and fellow member with Colonel George of the Public Library Commission of Detroit.

Colonel George concludes his article with an expression of his belief that it is the intelligentsia, the men of science, including medicine, who are making the great sacrifice in Russia.

UNEMPLOYMENT INSURANCE

Experience of the past two years has demonstrated the desirability of unemployment insurance from the viewpoint of the taxpaying citizen. Without some means of taking care of people who are temporarily out of work the onus falls entirely upon the taxpayer, as has been bitterly experienced in the larger industrial centers in this and other states. Of special classes the medical profession in particular has felt the burden keenly owing to the fact that what should be considered a community problem, namely the care of the indigent sick, has been left largely to the medical profession. While contemplating the subject of unemployment insurance many things should be taken into consideration, and above all lessons should be learned from the experiences of other nations and states where unemployment insurance of some form has been in vogue over a number of years. The difficulties of working out a satisfactory scheme of insurance seem at first sight unsurmountable. Those most directly concerned, however, namely the employer and the persons employed, should bear the major portion of the burden, and, to a much less degree, the state might be called upon to assist. In any scheme of private insurance the responsibility is divided between the insured and the insuring company. It would be too much perhaps to ask industry and labor to share the whole burden as the situation is at present. However, the burden is at present borne largely by a third party, namely the general taxpayer. We are not unmindful of the fact that both employer and laborer are taxpayers. However, in times of unemployment labor is not a taxpayer and industry does not pay more than it ordinarily does during prosperous times.

The National Insurance Act was adopted in Great Britain in 1911, since which date compulsory systems of unemployment insurance have been adopted in Italy, Australia, Bulgaria, Switzerland, Poland and Germany. Any plan of unemployment insurance adopted in the United States or any single state should be put in operation only after close study of the results in European countries. Acceptance of unemployment insurance as a principle is one thing; its application is another. H. M. Cassidy, a student of the subject, suggests that a satisfactory system should have the following characteristics: 1. It should guarantee adequate maintenance to the great bulk of the *bona fide* unemployed. 2. It should not be saddled with the support of shirkers or unemployables. 3. It should be on a sound actuarial basis, independent of periodical state subsidies. 4. It should be nation-wide in scope. 5. It should not impose any undue burden upon the development of industry. 6. It should draw its contributions largely from industry, with heavier charges assessed against establishments guilty of irregular operations than against those which are more regular.

Any form of unemployment insurance must put a premium on thrift and industry to the discouragement of incompetency and work-shyness. Undue burden should not be placed upon industry for the result will be to drive industries from the state, or to handicap them to such an extent that they cannot carry on. The worker should not be unduly favored, otherwise there would be an influx of workers from less favored communities, which would likewise be a bad thing.

It is too late probably to get into motion the necessary machinery for unemployment insurance for the benefit of the present depression, and as soon as the depression is over and becomes mitigated we are apt to forget and therefore to postpone the remedy to some uncertain future date. Depressions recur with such rythmic regularity that they may be predicted with more or less certainty. It is the *future* depression that should be anticipated and an attempt made to meet at the present time.

PUBLIC HEALTH EDUCATION

It is just ten years since the joint committee on Public Health Education was organized. The purpose as originally stated was, "to present to the public the fundamental facts of modern scientific medicine, for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting any school, sect, or theory of medical practice. It will send out teachers, not advocates." Much has been accomplished during the past decade, and several hundred lectures have been delivered before thousands of persons, members of high school classes and parent-teacher associations, as well as noontide clubs and industrial organizations. This

educational work has grown so steadily in popularity that the problem has been one of securing a sufficient number of trained and informed speakers to meet the increasing demands.

Starting out on the second decade of its history, a three year educational program has been proposed. The plan will involve closer contact with high schools and parent-teacher associations through a full time assistant director. The field work will include personal contacts with local medical societies. Dr. Henderson, who has been secretary of the joint committee since its organization, will have direct charge of the selection of the staff of lecturers, which he purposes to greatly enlarge and organize more efficiently. A lecture outlines library will be provided, as well as lecture synopses of important topics. The joint committee under the three year program will work in harmony with the Public Health Education program organized by the State Board of Health for the high schools of Michigan.

NORMAL GASTRIC ACIDITY

Studies have been made at the Mayo Clinic of gastric acidity based on an examination of 3,746 records of presumably normal cases; the purpose of the investigation was to ascertain the normal range of acidity, together with the variation in male and female stomachs, if any. The present study has included persons of all ages, whom both clinician and roentgenologist had pronounced free from demonstrable gastric disease. The investigator, F. R. Vanzant, further excluded all persons who gave a history of alcoholism, syphilis, advanced cardio-renal disease, anemia, leukemia, jaundice, myxedema, tuberculosis, Addison's disease, or disease of the liver or pancreas. The author noted the high incidence of achlorhydria, which was found to increase with the ages of the persons examined. The incidence of achlorhydria was found to be 4 per cent at the age of twenty, while it was found to be approximately 26 per cent in persons sixty years of age. At all ages women appeared to be slightly more subject to it than men.

The normal range of free acidity in males and females was found to be between 10 and 12 units in children less than five years old. The gastric acidity increases from this age so that at the age of fifteen years it is practically that of adults, which in women is 35 units; in men between twenty and forty years of age it is about 50 units. After fifty years of age the free acidity in men diminishes until the age of sixty-five, when it is the same as that of women. The total acidity for women appears fairly constant at 51 units throughout adult life. The total acidity for men ranged from 66 units at the age of twenty to 56 units at the age of sixty-five.

W. C. Alvarez, who discussed the paper, deplored the efforts on the part of physicians to alter some physiologic function when there was no clear idea of the normal range of that function. Only a year ago Bloomfield pointed out the normal variation of the gastric secretion with age; Vanzant is the first to demonstrate its variation between the sexes. It has been found that the mean acidity in women does not decrease at all. The conclusion is that the decrease in men with age is not due to senile atrophy of the gastric mucosa as originally held, since if true it should be equally marked in women. Similarly the increase in achlorhydria cannot be attributed to senile atrophy. If senile changes produce anacidity, they should also produce subacidity, which was not found to be a fact. Alvarez considers anacidity an inherited peculiarity which tends to be revealed as age advances.

THE DAMAGED HEART IN INDUSTRY

This is the title of a paper that appears in the present number of this Journal. It appears by the special request of several members, who heard it read at the annual meeting of the Michigan Association of Industrial Physicians and Surgeons. The author deals with a subject of great importance not only to the worker and employer but also to society at large, inasmuch as physical incapacity among workers is becoming an alarming social problem. This includes also the slowing up that comes with age.

Dr. McIlvain has discussed one factor only, The Damaged Heart is Industry. He contends there are stages in heart impairment in which man's usefulness in certain occupations is not in the least diminished, since workers are capable of rendering satisfactory service and therefore capable of supporting themselves and their families. Turning men loose on attaining a certain age, or

when they show signs of physical decline, has already given rise to a community problem of maintenance as well as a psychological problem, for men of so-called middle life, while they may lack the endurance of younger men, are usually at their optimum mentally. Privation of honorable means of subsistence is productive of discontent. The same is true of younger men whose ailment may be so slight as to be scarely noticeable to themselves under ordinary circumstances.

There are other physical conditions besides damaged hearts that are worthy the attention of the industrial physician. Of course, the industries have the final word and industry is seldom altruistic. There is the question of compensation in the event of injury or death by accident, also the matter of maintaining the pace even at a task that may not entail much muscular exertion. Success in industry is measured by dividends, so in spite of sporadic instances of altruism on the part of a few employes the race will continue to the strong.

HOW IT IS AFTER GREAT WARS

While the war of 1812 which culminated in the Battle of Waterloo in 1815 was very much eclipsed by the great war which began approximately one hundred years later, the aftermath was apparently similar. The following is an extract from a letter written by a patient to his physician at Eaton, New York, on October 21, 1819. We could well imagine such a letter written describing conditions today.

"My health is very good at present, which is more than I can say with certainty of my prospects in general. The general stagnation of all business in consequence of the unparalleled scarcity of cash, seems to stare me in the face with a most piteous aspect. And I am now more than ever convinced that the axion of Townsend with respect to the human system may justly apply to the social system. He says 'vital energy of an organ is in proportion to the quantity of well oxygenated blood that passes through it,' or something to that effect—as cash may be considered the life blood of social life the present may be considered an alarming crisis in the public's social health. Yet this complaint may be referred to causes similar to those which the same author names as the cause of so many complaints, viz., sordes in the primæ viæ.' Luxury and indolence have long existed in the primæ viæ of the public and must be ejected before perfect health can be restored. It were to be wished then that full doses of economy and good habits compounded with a little tincture of virtue might be speedily administered—the virtue, however, might be preferable if given in substance.

"I hope this may be done, and that health and happiness may once more exist in the whole system. And as I am an organ of this system (though it were as difficult to tell my use as it is that of the spleen or the thymus gland in the human system) I might be benefited."

CORRESPONDENCE

TAKE A LESSON FROM GENESIS

To the Editor of the Journal,
Michigan State Medical Society:

I have read yesterday in the July issue of the JOURNAL your very apt and—thank God—short, editorial on "Unemployment and the Medical Profession." The figures you present, showing approximately 45,000 destitute families in Detroit during the past year, and with consequent expenditure of $20,000,000 to care for them, are, I think, approximately correct. It is staggering to think that out of the pockets of those of us who pay taxes and whose incomes have been cut anywhere from 30 to 70 per cent during the period above mentioned, should come the money to meet this tremendous expenditure.

Of course this economic depression of 1930-1931 is no new thing, and those of us who are among the elders in the profession can undoubtedly call to mind in the past forty years a goodly number of economic depressions similar to the present one, although not so severe.

Far be it from me to attempt an exploitation of any theory regarding the present crisis, for we who read the papers, and the current magazines, and the popular books upon economics, are wearied to death with the multiplicity of efforts made through these various media to offer some solution of the underlying causes of the present crisis.

Like you, in your article, I prefer to exercise the utmost restraint, and not to weary you or your readers with futile suggestions. I can commend your restraint in the article which you have written and shall endeavor to copy it in this article as well as with my dealings with my unfortunate fellows.

The one point upon which I think commendation to you is imperative is in the suggestion you make of a remedy for the condition which carries as an implication the underlying cause. I refer, particularly, to your suggestion of *unemployment insurance.* Not the socialistic type of insurance which is sought by so many critics and visionaries today, but the type of insurance that in the fat years of our national existence shall put by sufficient funds from the employer and from the employe to carry both of these groups over the—always to be expected—lean years.

May I suggest to your readers the re-reading of the forty-first chapter of Genesis, Verse 29 et sequitur, in which the story is told of Joseph and his brethren through a period of tremendous economic depression in Egypt and in the surrounding countries about 3,000 years ago.

Such re-reading will show that an exceedingly astute ancestor of "the Jew," then chief steward or vizier of the kingdom of Pharaoh, having undoubtedly learned by experience the signs of the times, and being fully aware that economic crises come at more or less regular intervals, made plans and haste during the period when Egypt was at its apex of prosperity, to lay by and to store in warehouses throughout the kingdom sufficient cereal supply to carry their own nation, the Egyptians, and perforce some of the neighboring nations through the lean years which always and inexorably follow the fat ones. According to all the historic data at our disposal, Joseph the Wise stored up through seven years of prosperity, agricultural, economic, and industrial, a vast amount of reserve material which

could be utilized as subsistence for the nation. The records show that during these seven plenteous years he assessed both capital and labor to the extent of 20 per cent, or, as the word of the book has it, he took one-fifth of the product of the soil and of the nation throughout the period of seven years. To put it in another language and in other terms, he took the wealth which the nation produced over one and one-third years during this period for insurance purposes. This method of insurance is somewhat unusual, but, judging from the results, entirely effectual. The seven fat years were followed by seven lean, with the usual accompaniment of drouth, famine, and unrest, but the unemployment and crop insurance which Joseph had inaugurated as a national scheme proved so successful that the nation survived without a serious disturbance, and his brethren were able to come from the far countries and purchase, as other Outlanders did, sufficient food to save them from starvation during these black years.

Now, history has been denominated by a certain well-known capitalist as "Bunk." But to most of us it is the most valuable bunk in the world. It has taught us through all the centuries this lesson—that events and conditions have a way of repeating themselves at regular intervals through all the ages. Thus, here we are in 1931 with a crisis, economic, agricultural, and industrial, which may well parallel the crisis occurring in Egypt 3,000 years ago.

The story that I have just quoted from Genesis is an old story, but it undoubtedly taught a lesson to the Orientals of that age, and yields to us a lesson equally valuable today.

In time of prosperity prepare for adversity. Lean years always follow fat ones. In my judgment the inauguration of some scheme such as this one which we have told you today would do more to prevent the spreading of communistic ideas among our workers and among the great proletariat than any amount of propaganda foisted upon us by a subsidized, or even by a free press.

Again commending you for your courage, your accuracy, your clearness of vision, your restraint, I beg to remain,

Yours most truly,

W. M. DONALD.

938 David Whitney Bldg.,
Detroit, Michigan,
July 9, 1931.

THE SOBBIN' O' THE SISTERS

A'm tired, a'fu' tired o' the gaff that's goin' roon
'Boot the hard times that are passin' an' th' guid times comin' soon,
But I ken there's naething to it but the propagandin' croon
O' a bunch o' sobbin' sisters, that's a'ways roon the toon.

We are needin' noo a he-man wha kens a thing or two,
Wha faces a' things as they are an' kens that it is true
That as soon as we adjust oorsel's tae th' times we hae th' noo
The sooner we'll be eatin' bread wi' butter on it too.

The Republican is guilty, says the man, the Democrat,
An' ithers say that Volstead is to blame for where we're at,
Real estate an' racketeerin', stock markets fa' an' that,
Is naethin' tae the sobbin' o' the sisters an' their chat.

It started wi' us when at war, an' abnormal times were here
When we bought an' promised pay, listenin' tae the hired cheer,
When we a' went nearly crazy, buyin' everything too dear,
'Til oor salaries a' were mortgaged, for anither hundred year.

Then came the propagandist, an' mither's Willie, too,
Commissions an' committees, health workers not a few.
Salesmen wi' high pressure—a giant worthless crew,
They added naethin' tae th' worl', but a' big salaries drew.

Then the saftie politician wha didna go across,
The lobbyist an' agent an' a' wha tried tae boss,
Th' dreamer an' th' talker, wi a' his applesauce—
They're a lot o' sobbin' sisters, wi' backs a' claethed wi' moss.

This sobbin' o' the sisters, 'boot the business o' the State,
Is only makin' jobs for those wha dinna rise till late,
An' mixin' up the government wi' every family trait
Till we noo are a'maist governed by a man for every eight.

This paternalistic doctrine, noo maternalistic sap,
Is the whine o' sobbin' sisters,' that doesna care a rap,
They wad mak' a Coxey' Army, a noisy ane at that,
They're sucking a' the juice there is inside the people's pap.

It stultifies ambition, independence, pride and pep,
It's just as unAmerican as anything we get.
The fellow wha is hungry and wants to pay his debt,
Needs juist aboot an acre wherein his hoose tae set.

But ye coax him tae the city where he has tae pay a rent,
An' naething but his wages can he get by law's consent,
Then his job goes topsy-turvy, doesna matter where it went,
But he's left upon an island and he hasna got a cent.

There's a lot o' wee bit mayors an' ithers o' their set,
Wha are juicy politicians, gatherin' suckers in their net,
Wha would feed an' dole these people, addin' to their discontent,
Raisin' disrespect and taxes, we ken weel we're trouble bent.

Oh, gi' us noo a he-man, wha has the guts tae speak
An' show us hoo tae start again, wi' independent feet,
Wi'oot the politician, the barnacle, the cheat,
An' every man responsible, co-working for his meat.

We need an *evolution,* note the word ah chose tae sing,
Wi' a he-man at the helm, an American manly thing,
Th' *ither word* is comin' wi' communistic bing,
'Less th' he-men o' the country puts a hat intil the ring.

Sure as Hades is nae Heaven, we must instigate a plan
Where families hae their gardens wi' food tae help the man,
Make America for Americans wha are American

Not by takin' out their papers, but by being American.

We must move oor hundred millions frae the city's city roar,
Mak' them build their hames in sunshine, wi' flowers at their door,
There's a livin' doon in Texas for a hundred million more,
They need be willin' workers an' American to th' core.

Course we needna look for helpfulness or any michty boon
Frae th' present politicians, or ithers, vera soon,
For this bunch o' sobbin' sisters will sob and sob and swoon
'Til th' he-man o' th' country gets up and knocks them doon.

—WEELUM

Note—This is the same "Weelum" who has written for this Journal before. He has also contributed in his native Doric to the Tonics and Sedatives of the Journal of the A.M.A. and likewise to the Wayne County Medical Bulletin. "Weelum" limits his practice to diseases of the eye, ear, nose and throat and is well known personally to the ophthalmologists and oto-laryngologists of this State. Through characteristic modesty he wishes to appear under his sobriquet rather than the name given him by his immediate ancestors.—Editor.

THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians will hold its Sixteenth Annual Clinical Session at San Francisco with headquarters at the Palace Hotel, April 4-8, 1932. Following the Clinical Session, a large percentage of the attendants will proceed to Los Angeles, where a program principally of entertainment will be furnished April 9, 10 and 11.

Announcement of the dates is made particularly with a view not only of apprising physicians generally of the meeting, but also to prevent conflicting dates with other societies that are now arranging their 1932 meetings.

Dr. S. Marx White, of Minneapolis, is President of the American College of Physicians, and will arrange the Program of General Sessions. Dr. William J. Kerr, Professor of Medicine at the University of California Medical School, San Francisco, is General Chairman of local arrangements, and will be in charge of the Program of Clinics. Dr. Francis M. Pottenger, of Monrovia, is President-Elect of the College, and will be in charge of the arrangements at Los Angeles. Mr. E. R. Loveland, Executive Secretary, 133-135 S. 36th Street, Philadelphia, Pa., is in charge of general and business arrangements, and may be addressed concerning any feature of the forthcoming session.

"There is therefore a basis for the idea that senility is catching, and for seeking the companionship of the young and thereby letting autosuggestion work in a constructive direction. A well occupied mind, a happy disposition that thinketh no evil, naturally smiles instead of frowning on a stranger or a new idea, free from anger, hatred, and jealousy, the vice that gives no pleasure to anyone, and an attitude of charity in its original and best sense, all tend to prolong life and make it a happy and healthy prelude to crossing the bar. In Sir James Crichton Brown's words: 'The best antidote against senile decay is an active interest in human affairs, and those keep young longest who love most.'"—SIR HUMPHRY ROLLESTON in *Aspects of Age, Life and Disease.*

GENERAL NEWS AND ANNOUNCEMENTS

PROGRAM UPPER PENINSULA MEDICAL SOCIETY MEETING

August 13 and 14, Houghton

THIRTY-FOURTH ANNUAL MEETING UPPER PENINSULA MEDICAL SOCIETY

Headquarters and Scientific Exhibits, Douglass House, Houghton.

Business and Scientific Sessions, Kerredge Theatre, Hancock.

August 13—9:00 a. m. Registration of members at Headquarters (Douglass House).

MORNING SESSION

10:00 a. m.—Welcome addresses by Mayor R. H. Shields, Houghton, and Mayor Norman Starrett, Hancock.

10:15 a. m.—Response by Dr. C. N. Bottum, Marquette, President Upper Peninsula Medical Society.

11:00 a. m.—Address: Dr. C. C. Slemons, State Commissioner of Health, Lansing.

11:30 a. m.—Paper, "Indirect Inguinal Hernia, Etiology and Treatment with Simplified Surgical Technic," by Dr. F. S. Stocking, F.A.C.S., Calumet, Mich.

12:00 Noon—Adjournment for lunch, Scott Hotel, Hancock.

1:00 p. m.—Paper, "Gastric Surgery," by Dr. Norman Allen, Associate Attending Surgeon, Harper Hospital and Instructor in Surgery, Detroit College of Medicine and Surgery.

1:30 p. m.—Paper, "Surgery of the Gallbladder and Ducts," by Dr. Waltman Walters, Surgical Section of Dr. Waltman Walters, Mayo Clinic.

2:00 p. m.—Paper, "Acute Intestinal Obstruction," by Dr. R. C. Stone, Battle Creek, President, Michigan State Medical Society.

2:30 p. m.—Paper, "Pelvic Infections," by Dr. Norman F. Miller, Iowa City, Professor Obstetrics and Gynecology State University Iowa College of Medicine.

3:00 p. m.—Recess, 15 Minutes.

3:15 p. m.—Paper, "Surgical Kidney," by Dr. Armour Fletcher, Milwaukee, Professor of Genito-Urinary Surgery, University Marquette Medical School.

4:00 p. m.—Paper, "Nephritis," by Dr. E. K. Kerr, Chicago, Professor Internal Medicine, Rush Medical School.

4:30 p. m.—Paper, "Pathology, Heart and Kidneys," Dr. V. C. Weller, Ann Arbor, Professor Pathology, University Medical School, Ann Arbor.

5:00 p. m.—Adjournment.

7:30 p. m.—Society Banquet for Physicians and Ladies at Douglass House.

Drs. Louis Hirschman, R. C. Stone and James D. Bruce will make after-dinner addresses.

Other distinguished Guests will be introduced and acknowledge introduction by rising.

AUGUST 14, MORNING SESSION

9:15 a. m.—Meeting called to order.

9:30 a. m.—Paper, "Coronary Disease," by Dr. N. C. Gilbert, Chicago, Specialist and practice limited to diseases of heart.
10:30 a. m.—Paper, "The Applications of Bone Grafting," by Dr. V. L. Hart, Ann Arbor, Professor University Medical School, Ann Arbor.
11:00 a. m.—Paper, "Surgery of Sympathetic Nervous System," by Dr. A. W. Adson, Surgical Section of Neurology, Mayo Clinic.
11:30 a. m.—Paper, "Mental Health of Children," by Dr. E. H. Campbell, Medical Superintendent, Newberry State Hospital, Newberry.
12:00 Noon—Paper, "Diseases of Rectum," by Dr. Louis Hirschman, Proctologist, Detroit.
12:30 p. m.—Business Meeting and Election of Officers for 1932.
1:00 p. m.—Adjournment for lunch.
2:00 p. m.—Golf for members desiring golf at Houghton Club.
2:00 p. m.—Clinic at St. Joseph's Hospital, Hancock, Mich.

For reservations communicate with Drs. Robert Harkness and Alfred Labine, Houghton, Mich.

President Stone will attend the August meeting of the Upper Peninsula Medical Society.

Dr. L. Ferdinand Foster was elected President of the Bay City Rotary Club.

Please note the preliminary program for our annual meeting that is published in this issue. Note the dates and plan to attend. The Pontiac members are eager to have you enjoy their hospitality.

New and Non-official Remedies, 1931, containing descriptions of the articles standing accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1931. Cloth.

Dr. Frank A. Kelly of Detroit was elected president of the American Medical Golfing Association in Philadelphia June 8. The membership of the organization is made up of fellows of the American Medical Association. Dr. Kelly's election, which was unanimous, followed the seventh annual golf tournament and dinner of the Society.

Dr. Angus McLean of Detroit addressed the Middlesex County (Ontario) Medical Society at its meeting at Pond Mills on the afternoon of July 15. He spoke on "Medicine and Its Co-Dependence." At the close of the scientific program Dr. McLean was elected by unanimous vote to honorary membership in the Middlesex Medical Association.

INFANTILE PARALYSIS OUTBREAK SPREADS

Infantile paralysis is increasing throughout the country. The number of cases reported to the U. S. Public Health Service has nearly reached the high figure of the 1928 outbreak. For the week ending August 23, there were 325 cases throughout the entire country, with over 60 cases in California alone. This state has had a high number of cases for several weeks, but the disease has lately spread considerably in eastern and middle western sections. It is probable that the outbreak will last for two or three weeks, but it is not considered alarming, officials stated.—*Science Service.*

HYPERTELORISM: FOUR CASES

According to WILLIAM ANTHONY REILLY, San Francisco, hypertelorism is a developmental defect of the lesser wings of the sphenoid bone; they ossify early in uterine life and grow excessively. This causes the typical widely separated eyes. The skull is brachycephalic. Mental retardation can occur. There are other similar occurrences of hypertelorism in families. Four additional cases in American literature are reported, bringing the total of reported cases to seventeen. Only one patient had definitely normal mentality; one had a history of previous occurrence of hypertelorism in the family. This patient possibly showed for the first time in the literature the combination of the three classic signs—family tendency, orbital separation and retarded mentality. It is more correct to refer to family tendency than to heredity in this condition.—*Journal A. M. A.*

FRIEDMAN'S HORMONE TEST FOR PREGNANCY

THOMAS B. MAGATH and LAWRENCE M. RANDALL, Rochester, Minn., believe that although the hormone pregnancy test devised by Friedman, using urine which is injected intravenously into rabbits, is simple to perform, certain precautions are necessary. In the first place, the first urine passed in the morning should be used and should be injected within an hour, or the specimen should be kept on ice until it is used. Urine older than five hours probably should not be used. If the urine is cloudy it should be filtered. Rabbits younger than two and a half months should not be used, and there is no objection to using old animals if they have not recently copulated. It is absolutely essential that rabbits be kept under such conditions as to insure their not being pregnant as well as not having recently copulated. If the rabbits are young, care will have to be exercised to be sure that females and not males are selected for the test, for the external genitalia are not so clearly recognized as in older animals. It is best to isolate animals in single cages for three weeks before using them, thus avoiding any of these difficulties. Sterile technic is not necessary, and from 7 to 15 c.c. of urine should be injected slowly into the marginal ear vein of the rabbit. Thirty hours should elapse before the animals are examined, else the test may be indefinite. Positive tests are indicated by the presence of corpora lutea and corpora hemorrhagica, which are detected by gross inspection. If they are not clearly evident, the test had best be considered negative. In the authors' series of positive animals, marked injection of the uterus and oviducts was striking. The test is both practical and accurate. It is of great value in distinguishing either early or late pregnancy from other conditions. Perhaps its greatest value will be in detecting early pregnancy in cases in which continuation of the pregnant state would be dangerous to the physical well-being of the patient.—*Journal A. M. A.*

SOCIETY ACTIVITY

Oakland County Greets You. For 111th Annual Meeting--September 22, 23, 24, 1931

Greeting from the Oakland County Medical Society

FELLOW MEMBERS *of the Michigan State Medical Society*

We, the members of the Oakland County Medical Society, extend to you a most cordial invitation to visit our community at the annual meeting of the Michigan State Medical Society in September.

We are proud that Pontiac has grown to maturity in being able to entertain this meeting, and you will make us particularly happy if you will join with us in our Centennial program, the one hundredth birthday of the founding of the first medical society in Oakland County. We believe that such a meeting should be serious in nature, and you may expect the scientific program to predominate. Plans have been made, however, for a variation in the usual annual meeting, which will feature our Centennial. You will note in the following pages that our program begins on Sunday night, September 20, and ends the evening of Thursday, September 24. We invite you to come early and feel certain you will not wish to leave until after the final evening session.

For entertainment, we are abundantly equipped with neighboring golf clubs, for those who wish diversion from the scientific sessions. We want your wives to come with you. Our Women's Auxiliary, recently formed, is anxious to entertain them.

Many of you living in this part of the State already know the facilities of Pontiac and the beauty of the surrounding country. For those coming from greater distance, we assure you that every effort will be made to make your stay comfortable, convenient and profitable. You will be truly visiting Michigan's Land of the Lakes, for Oakland County boasts of some four hundred inland lakes, all of which are easily reached by improved highways and are bounded by cottages, beautiful country estates and country clubs.

Pontiac, as you may know, is primarily an automobile city, but we will not burden you in these pages with real estate sales talk. We have endeavored to acquaint you briefly with its history and more especially with its medical aspects which we judge are your chief interest.

It is anticipated that many attending this convention will come by auto and many within driving distance may wish to return home at night; all others, we believe, we can comfortably accommodate in the hotels listed, or in lesser hotels, should the demand arise.

OAKLAND COUNTY MEDICAL SOCIETY,
ROBERT H. BAKER, *General Chairman.*

ONE HUNDREDTH ANNIVERSARY

The 1931 meeting of the State Society will witness the one hundredth anniversary of the Oakland County Medical Society.

The local society has made plans for a celebration in the form of a Health Exposition to be held in the First Presbyterian Church during the period of the state meeting.

On the Sunday preceding, a public church service will be held in the Baptist Tabernacle, at which meeting the Rev. Mr.

Savage of Pontiac will address the congregation on public health conservation. This talk will be broadcast over radio station WJR. This meeting will contemplate a memorial to those physicians and surgeons who have formerly practiced in Oakland County.

On Tuesday, Wednesday and Thursday, September 22, 23, 24, the Health Exposition will be in progress at the First Presbyterian Church. These exhibits will consist of educational features regarding health protection, diseases, prolongation of life, child care, communicable diseases, exposure of quackery, medical education and public health activities. Participants in this affair will be: State Health Department, American Medical Association, Oakland County Health and Pontiac Health Departments, Metropolitan Life Insurance Company, Visiting Nurses Association, American Red Cross, Public Schools, Oakland Motor Car Company, Fisher Body Corporation, Wilson Foundry and Machine Company, General Motors Truck Corporation, Children's Fund of Michigan and the Police Department.

Each day the public will be addressed by selected speakers who will be assigned suitable health and medical subjects. Arrangements will be made to have trained attendants at the exhibits to explain and demonstrate to the visiting public.

Extensive county-wide publicity will be secured through the coöperation of the press, Board of Commerce and bulletins.

On the last day of the meeting arrangements have been made for a public meeting in the Tabernacle of the Baptist Church, where Dr. Fishbein will address an audience upon the progress of medical science and that which scientific medicine is accomplishing. The local society has set aside the sum of three hundred dollars for prizes. These prizes are to be given to the teachers and high school students of Oakland County who present within thirty or sixty days the best essay reflecting the main points of Dr. Fishbein's address and the achievements that modern medicine is accomplishing.

MASONIC TEMPLE, PONTIAC, MEETING PLACE

We, in Oakland County, feel that this Health Exposition will create an intense public interest and that it will exercise in a large way a health influence upon the people of Pontiac and Oakland County. It is hoped that we will receive commendation and the whole hearted support of the members of the State Society to bring about the consummation of our plans.

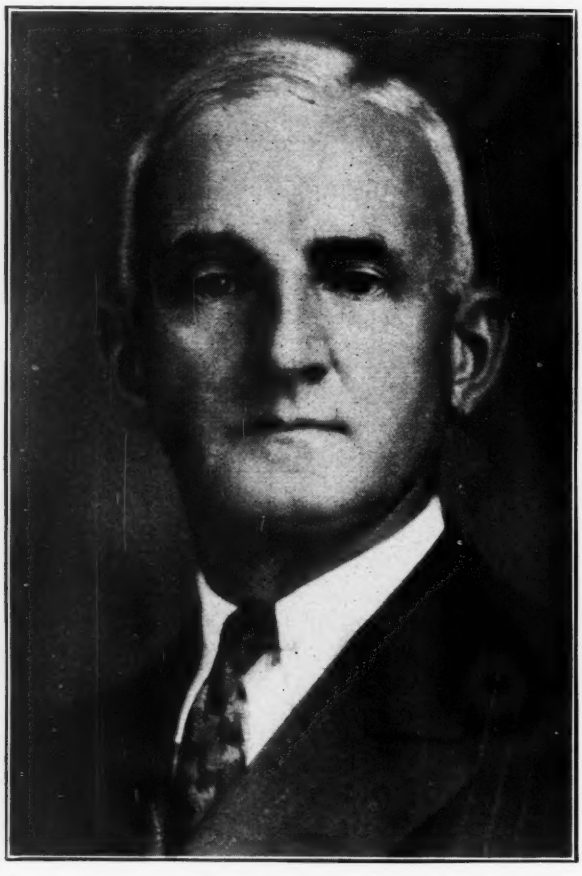
EVENING PROGRAM THURSDAY, SEPTEMBER 24, 8 P. M.

Meeting opened by Dr. Farnham, President of the Oakland County Medical Society.

Introduction of Dr. F. A. Baker, Chairman of the Centennial Committee, who will make announcements concerning the prize contest.

Introduction of Dr. F. C. Warnshuis by Dr. Farnham.

Dr. Warnshuis will introduce the speaker, Dr. Fishbein, who will speak on "Borderlines of Medicine."



DR. L. A. FARNHAM, PRESIDENT OAKLAND COUNTY MEDICAL SOCIETY

EARLY PONTIAC

Pontiac, Michigan, is located in Oakland County, surrounded by more than four hundred spring fed lakes, that nestle among the wooded hills.

Pontiac was named after chief Pontiac, famous chieftain of the Ottawas who roamed with his Indians over the hills and fished in the beautiful spring fed lakes over more than a century ago.

Legend has it that when the morning sun glistened on our many lakes, it gilded the hills about until they seemed like protecting shields of burnished gold. It shone warmly on a fertile valley. Chief Pontiac, looking down upon the scene, shielded his eyes from the bright rays, and thought here is a home for my people and so it became their home —a home beautiful, a home sheltered.

In the State of Michigan, and Oakland County alone, lie this chain of beautiful clear lakes, many of them miles in length and width with beaches of white pebbles, shaded by trees of the forest primeval, surrounded by winding roadways. Two rivers, the Huron and Clinton, run through these lakes, winding, turning and twisting till after a course of hundreds of miles they at last rest in lakes Erie and St. Clair.

These rivers in summer are dotted with the water lily and on their banks in days of old stood many a wigwam.

Orchard Lake, one of the larger of nature's gifts to Oakland County's beauty, carries within its shores a large island, wooded to its very shores. On this island are a few apple trees "Old and Gnarled," remnants of an orchard planted so long ago that the Indians have no date of its planting. This island was named "Mennah-sa-gor-ming," meaning "Apple Place," which still lives in tradition. It was on this island the Algonquin Chief Pontiac had his lodge after his repulse at the siege of Detroit. Orchard Lake, the scene of many old traditions, lies almost in the center of Oakland County, of which Pontiac is the county seat. Rarely does one find a city so surrounded with natural resources and beauty, plus the foresight and advantages of man's commercial genius.

Pontiac is a fast growing industrial center; its first white settlement was established in 1818 and in the next century its population grew to 30,000 inhabitants. In the last twelve years it has grown to nearly 65,000 population. Here are located many units of the automobile and allied industries. The buildings cover many acres of floor space, whose equipment is the very latest product of man's productive engineering skill.

Pontiac has many beautiful commercial and civic buildings. Its merchants are alive and up to date in caring for the public needs. Its schools and churches are second to none in Michigan for a city of its size. Here the youth of today are trained to build for the future a Pontiac of civic achievement, moral culture and manufacturing skill, which will be kindred to our past growth.

Very aptly has Pontiac been called the Summer Wonderland of Michigan. It can be reached from every point of the compass on improved highways. If you have never

motored over these highways you have missed many of the most charming drives imaginable. Wider Woodward, the Wonder Super Highway, leading south from Pontiac through Bloomfield Hills and other cities of picturesque beauty, finally lands one in the City of Detroit.

Pontiac is well prepared to play a good host to its visitors and tourists through its three hotels and information facilities of its Board of Commerce at 17 East Huron Street.

PONTIAC GENERAL HOSPITAL

Formal opening of the Pontiac General Hospital was made Monday night, January 19, 1931, when the medical staff of the institution, city officials and a number of invited guests had dinner in the staff dining room. During the evening Architect Leo J. Heenan turned over the building to City Manager James R. Pollock, who accepted it on behalf of the city.

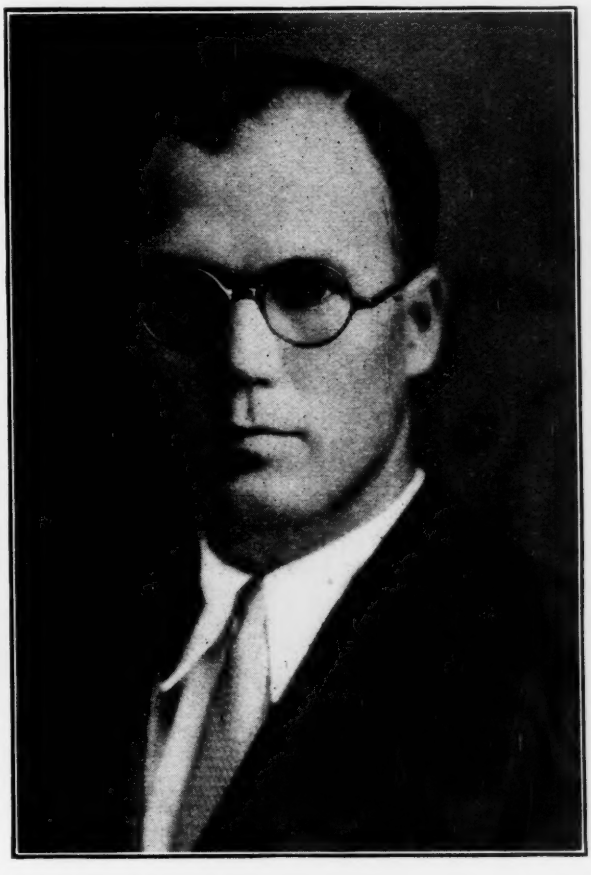
Monday night's program consisted of short talks by men who have been closely associated with the planning of Pontiac's hospital program and the building of the new institution, and an address by Dr. E. R. Crew of the Miami Valley Hospital of Dayton, Ohio, and an authority on hospital planning and organization.

A number of facts are outstanding among the hundreds of amazing and interesting details to be learned about the city's new hospital. In all of Detroit, there is no finer hospital than Pontiac's newest institution, according to Dr. Crew.

The cost of the new building has been 54 cents a cubic foot and Dr. Crew told his hearers Monday night that the average cost of hospitals in the United States was from 75 cents to $1.00 a cubic foot.

With the addition of the new hospital, Pontiac's total hospital bed capacity is still approximately 100 beds below the minimum recommended by the American Hospital Association for a city of this size.

Dr. Crew in addressing this meeting remarked: "The first consideration for a patient is comfort and you have cared for that —ample light, ventilation, phone and radio service. The sound limitation is excellent. It is not the external noises that annoy patients, but the internal—doors banging, loud talking and the like. You have insulated against all that. I have inspected hospitals costing more than $1.00 a cubic foot and the workmanship and materials did not begin to compare with this, which has cost you 54 cents a cubic foot. You have spent wisely. A hospital is a medical center for a community and an educational center: your staff meetings, your internes in training and your nurses. You will soon wish



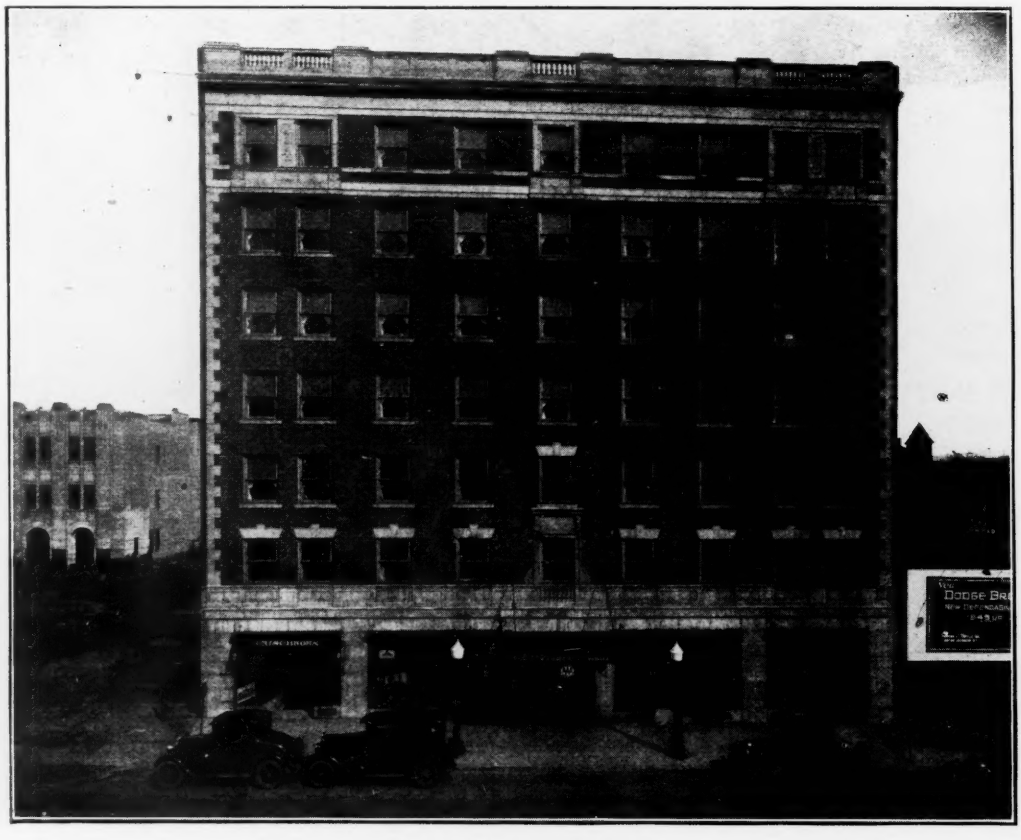
Dr. Donald F. Hoyt, Secretary Oakland County Medical Society

to establish a nurses' training school for a hospital of this size needs such a school. You have provision for an out-patient department and, when this is in operation, many can leave the hospital beds sooner and return for minor attention. Your city is to be congratulated on its accomp'ishment and I do not think that Detroit has anything better than you have here to offer in the way way of hospital facilities."

Dr. Christian, who was on the citizens planning committee for the hospital, presented to the city and the hospital, a library of some 300 volumes of medical journals and other books which he has collected. These books date from 1850 and are a consecutive record of medical practice and prog-

ress and will form a nucleus around which a hospital library may be built. Since the hospital was opened in January, many of the doctors have made substantial contributions which have been expended in the furnishing of the doctors' library. Many donations of current medical books have been made and the staff subscribed to 12 current scientific journals covering all specialties.

With the opening of the new hospital unit Pontiac has a hospital which is as modern as scientific planning and modern building methods can make it and an institution which is on the conditionally accredited list of the American College of Surgeons.



HOTEL HELDENBRAND

Hospital activities in Pontiac began May 14, 1901, when six ladies met and organized the Oakland County Hospital Association. At that time there was no place to care for the sick or injured except in the county jail.

In 1909 the first unit of the City Hospital was built, with a capacity of 15 beds; in 1914 an addition of 15 beds was made and in 1921 a second addition increased the capacity to 65 beds. In 1925 the hospital was placed in complete charge of the city.

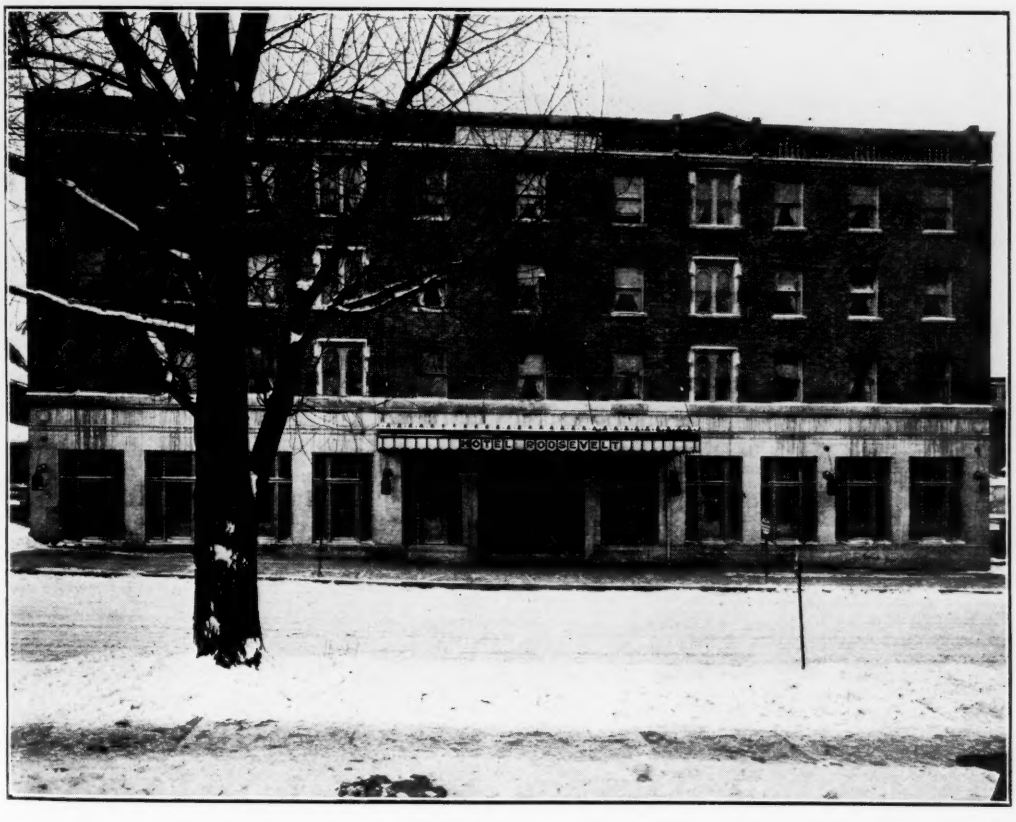
When it became apparent a few years later that hospital expansion would be essential, voters approved a $100,000 bond issue as a start for the building fund and a citizens' committee set about studying the hospital needs of the city.

Need for greater facilities was shown in the increasing number of patients each year. The figures follow: 1924, 1,587; 1925, 1,861; 1926, 2,775; 1927, 2,845; 1928, 3,106; 1929, 3,327. The 1926 increase was experienced despite the opening of St. Joseph Mercy Hospital that year and the increase in following years was limited by the capacity of the hospital.

Voters of the city approved another bond issue of $450,000 in the spring of 1929 and in the fall of 1929 ground for the new building and for the new power plant building was broken. The new hospital cost about $610,000.

The new building is entirely fireproof and much thought has been given in its construction to reducing upkeep and care by proper building methods. Walls and ceilings are soundproof; long corridors are broken by

HOTEL WALDRON



HOTEL ROOSEVELT

swinging doors; all corners and supporting platforms are rounded and coved for ease in cleaning.

Windows are of the steel casement variety and are designed to admit air without draft and to remain open during rain without admitting the rain.

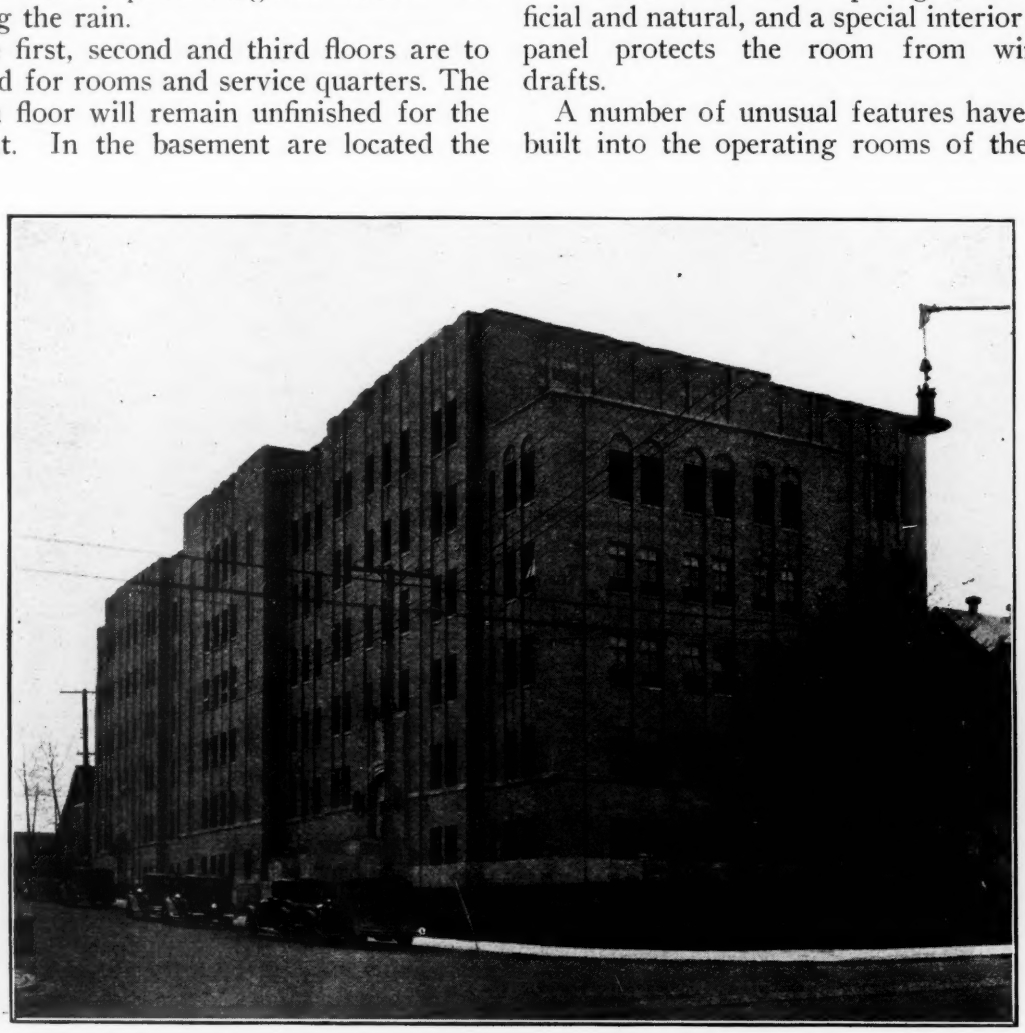
The first, second and third floors are to be used for rooms and service quarters. The fourth floor will remain unfinished for the present. In the basement are located the kitchens, staff dining rooms, storage rooms, drug dispensaries, rooms for the eventual establishment of a clinic, and rooms for emergency treatment of accident cases. Ambulances and other cars bringing or taking away patients may drive into the building when weather is unfavorable. The treatment of emergency cases in the basement near the ambulance entrance will keep the noise and confusion from other patients.

The fifth floor of the new building is devoted to surgery, X-ray, physiotherapy and laboratory work and on this floor will be found the most modern equipment available and many unusual features planned for the safety and comfort of patients.

There are three operating rooms located on the north side of the building. They are finished in light green tile with green terrazzo floors. There is ample light, both artificial and natural, and a special interior glass panel protects the room from window drafts.

A number of unusual features have been built into the operating rooms of the surgical department. Oxygen, air and certain anesthetics will be supplied by pipes from a special tank room, and another pipe line will furnish a vacuum, replacing the former system of taking the tanks into the operating rooms. Oxygen from the central control room will also be piped to the nursery, where it may be used in the treatment of babies.

The terrazzo floors of the operating rooms are completely underlaid with wire, the metal joints soldered and the entire system grounded to prevent creation of static electricity.



PONTIAC GENERAL HOSPITAL

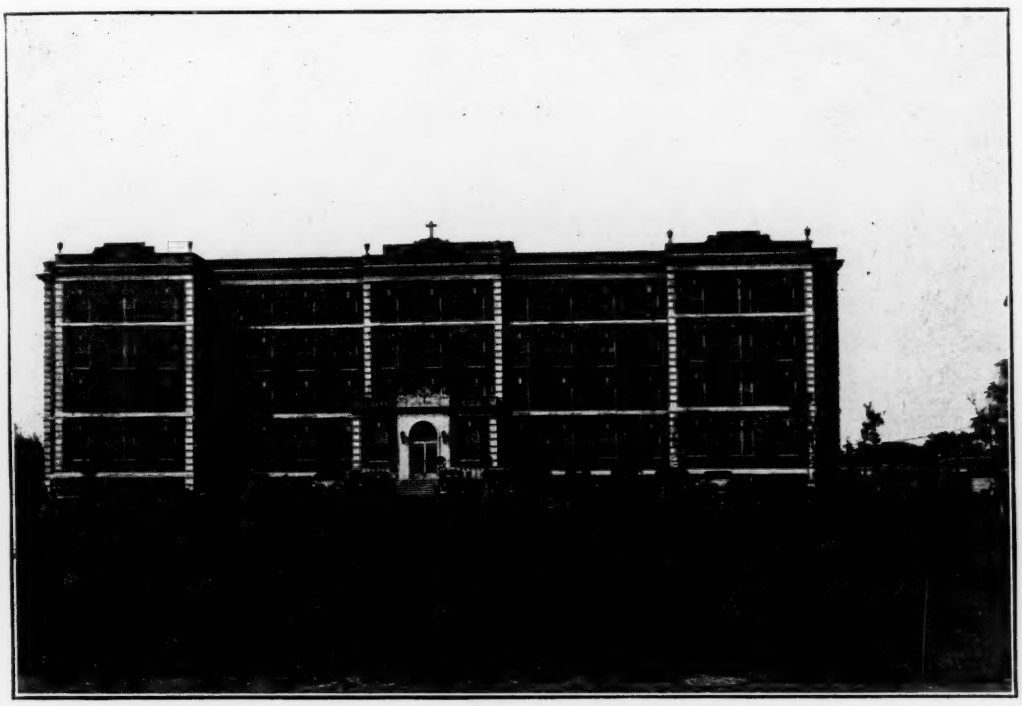
Between the operating rooms are special surgical sterilizing rooms in which all instruments and other equipment may be subjected to high steam pressure before and after use.

In addition to the special surgical sterilizing rooms, a large sterilizing room for use of the entire hospital is on the fifth floor. The large steam chamber here can accommodate mattresses or large bundles of bedding, as well as smaller articles. All table tops in this room, as throughout the building, are of monel metal.

provided to carry off fumes from the vault in case of an emergency.

Other rooms on the fifth floor include a physicians' lounge and locker doom, a waiting room for outpatients who may come for X-ray work, a nurses' station and utility rooms which include, in addition to the usual equipment, closets to heat blankets, drying cabinets and like accessories. A large sun room for physiotherapy is also on this floor.

Forced ventilation is provided in many rooms, such as the operating rooms and in



SAINT JOSEPH MERCY HOSPITAL

All X-ray work will be done on the top floor. Three rooms are devoted to fluoroscopic, radiographic and cystoscopic work and a special dark room for handling and developing plates is provided.

A feature of the X-ray department is a special fireproof vault for the storage of films. Use of recently conceived films removes much of the danger from fire or explosion but as an added precaution all X-ray films are stored in a concrete vault, protected by double steel fire doors. The vault is in an outside wall on the west side of the building. Vacuum enclosed lights and other devices guard against stray sparks and a sprinkler system will operate in case of fire. Special ventilators leading to the outside are

a section of the laboratory, to carry off fumes from the chemicals in use.

Electric clocks in the operating rooms are provided with second hands in order that an accurate check of time may be made.

Many features which might easily go unnoticed have been incorporated in the building, such as arm hooks on doors of the surgical department in order that all doors may be opened without touching them with the hands. Water faucets and drains may likewise be operated with the arms and knees, without the use of the hands.

The nursery is located on the east side of the new building on the third floor. Fond relatives and friends of new arrivals will discover that the nursery has ample window

space through which the babies may be viewed from the corridor but has only one door from the general passageway, and that one is to be rigidly guarded when the nursery is occupied. Visitors from the outside present a real danger to small babies through the possibility of bringing dirt and disease germs on their clothing, hospital officials declare. So the nursery is built to afford ample viewing but no meddling.

In the main nursery, bassinets will be provided for 25 babies and in the isolation section nine others can be accommodated. The isolation section is a part of the nursery in which each bassinet is in a separate compartment and is for children brought into the hospital from outside or who for any reason are to be isolated from the others. Between these two divisions is the work room for washing and caring for the babies. Special wall panels and interior windows protect the nursery from outside drafts while permitting plenty of ventilation.

The nursery is soundproof and any noise or crying cannot be heard in nearby rooms. The entire obstetrical department was furnished by the Oakland County Hospital association.

Convenience and comfort of patients have been given prime consideration in the new hospital. Every private room will have a telephone connection as well as a radio plug through which the patient may connect earphones with a central receiving set.

In private rooms there is a separate toilet room and a closet for clothes containing a locker for personal effects and valuables. The four-bed wards are provided with a locker room between each two wards in which the patients' clothes and belongings are safely stored.

The call system for nurses is an improvement over the old systems. In the system installed in the new hospital, a patient's call shows above the door, in the nurses' station, the service kitchen and the floor's utility room. Hence the patient's call will be visible at any point at which a nurse on duty is likely to be at work.

While the new building is entirely fireproof, a regulation city fire alarm is installed with a call box on each floor. Any alarm of fire will register in the hospital office and in the Central Fire Station and register not only the hospital but the floor from which the call comes.

The heating plant of the hospital is in a separate building behind the main structure. Here are located two high pressure steam boilers with a combined capacity of 504 horsepower. Only one is used at a time, the other being in reserve. All vital service equipment in a hospital must be duplicated for safety as interruption of heat and similar services might result seriously to many patients.

Water softeners and pumps and other mechanical equipment are located in the power plant, as is the hospital's own laundry department. Soiled linen is dropped from the various floors through glass lined clothes chutes so built that they may be cleaned with scalding water.

Most amazing among the mechanical features of the hospital is the automatic electric elevator. The elevator, said to be the first of its kind in the state, displays rare intelligence. When it is carrying a capacity load it will continue past waiting passengers and discharge its load and then, without further signal, return to the waiting passengers and pick them up in the order in which their calls were placed. An order placed with this modern elevator is carried out eventually, even though the machine has several previous orders to execute first.

ST. JOSEPH MERCY HOSPITAL

The campaign for the St. Joseph Mercy Hospital was begun in June, 1925. This campaign was the result of effort extending over a period of two or three years by local citizens with the coöperation of Dr. C. G. Darling of Ann Arbor. The project began to take form with a donation by Fred W. Warner of a site on which to build a hospital, when the Sisters of Mercy expressed a willingness to come to Pontiac.

Some time later the Sisters of Mercy of Dubuque, Iowa, outlined their plan by which they would construct the new hospital in Pontiac. This roused to action the service clubs in Pontiac and a campaign committee was appointed. The result of this effort was a subscription of $235,000 by Pontiac and neighboring citizens, which amount was more than matched by the Sisters for the construction of the hospital.

The hospital was formally dedicated May

9, 1927, which gave to Pontiac a substantial realization of civic effort and generosity on the part of the Sisters of Mercy. This building, as first opened, consisted of a four story brick structure with a capacity of 125 beds.

Entering the front door, one climbs a dozen or so steps to enter the lobby. From the lobby, on a line with the entrance, doors to the right and left lead to comfortably appointed reception rooms. To the left is a wide archway which connects with the general office of the hospital. Behind this office is the private office of Sister Carmelita, superintendent.

Passing through the lobby, one enters the hospital proper and the long central corridor, running in both directions, leads to various private rooms. Directly in front of the lobby entrance are the two automatic elevators, and beyond this is a sun parlor for patients. The first floor is almost entirely given to patients of the medical department with the exception of the house doctor's apartment, the chaplain's apartment, chaplain's dining room and the beautiful chapel.

On the second floor is located the surgical department, record room, doctors' offices, pharmacy, completely equipped; dressing room, sisters' quarters and laboratory. The entire surgical department is finished in a light green shade of tile walls and terrazzo floors. There are four large operating rooms for general surgery and one tonsillectomy operating room. Other rooms in the surgical department include the doctors' locker with lockers for 20 surgeons; and dressing rooms, and the doctors' scrub room. On this floor also is a central dressing room and a large record room. The laboratory is also located on this floor near the southern end and has every device known to modern medical science in prevalent hospital use. Complete bacteriological, serological and pathological tests can be made in this laboratory.

PONTIAC STATE HOSPITAL, MAIN BUILDING

The third floor is devoted almost entirely to patients' rooms for the surgical department.

The fourth floor is the obstetrical department and here are located the nursery, mothers' room, obstetrical room, infants'

wash room and rooms for the obstetrical patients.

On the ground floor is the X-ray department, emergency operating room, metabolism room, cafeteria, undergraduate nurses' dining room, nurses' class room, sisters' dining room, diet kitchen and the general kitchen. The refrigeration rooms from where pipes lead to various departments is also located in the basement.

The boiler room is a completely separate building from the hospital proper, and is located to the rear of the building at the northern end. The complete heating plant and the hot water boilers are all located in this plant, which owing to its position away from the main building relieves the possibility of dust or dirt from the furnace rooms.

One of the most beautiful chapels in any of the hospitals operated by the Sisters of Mercy is the chapel in this hospital. The magnificence of this beautiful miniature church has been remarked upon by hundreds of visitors. The chapel is of Roman architecture, cream and gold walls and ceiling, and pews of mission, which creates a striking contrast with the alabaster hues of the altar. The altar is of white marble base with onyx columns. Above the mensa, or table of the altar, is a canopy supported by onyx columns containing a white marble crucifix, the background of which is set in gold mosaics. The door of the tabernacle or repository is of gold finish and on either side of the tabernacle are three large candlesticks called for by the ritual of the church.

The emergency department, with the emergency operating room, is located on the ground floor to the rear of the building with direct ambulance entrance to the road.

Opening of the general clinic at the St. Joseph Mercy Hospital was announced in January, 1931. Since last fall the hospital has conducted an obstetrical and children's clinic. The response of persons who need such service was so great that decision was reached to establish a general clinic. This clinic is equipped and maintained by the hospital, and professional service is donated by physicians. The clinic is intended to serve only persons who are unable to obtain medical aid in the usual manner.

With the growth of this clinic, it became quickly apparent that further hospital facilities were required. In spite of the increased hospital facilities afforded by the opening of the new Pontiac General Hospital, an addition to St. Joseph Mercy Hospital was begun. This is now in the process of construction. The addition is a brick structure behind the main building, joined to it by corridors on each floor. It will increase the bed capacity to 200 and provide a rearrangement of the present facilities. The X-ray department will be transferred to the new section, two floors of which were opened for occupancy June 15. The immense demand on the outpatient clinic has required additional space, which will now be expanded in the basement of the original structure.

PONTIAC STATE HOSPITAL

Nearly included within the city limits of Pontiac lies the Pontiac State Hospital, for the care and treatment of the insane. We cannot claim this as a strictly local institution, but because it is so nearly one of our pioneers and because its medical staff have always coöperated to the fullest extent with the local profession, we are proud to list it among our local hospitals.

This hospital was first opened to patients in 1878 under the title "Eastern Michigan Asylum." The name was changed in 1911 to the Pontiac State Hospital. Although many of the buildings are of ancient construction, through the diligent and efficient executive management of Doctor Christian, the hospital has remained up to date, and is taxed to capacity with its 1,800 patients.

Truly it is a city within itself, being housed on an area of 900 acres, employing 300 attendants and other employees. Its buildings are beautifully enclosed in a magnificent park surrounded by farms and gardens, the produce from which supplies the hospital. The State Hospital for years has boasted a celebrated herd of Holstein cattle. It has its own light and water system, and is virtually independent of the resources of the City of Pontiac.

The medical staff consists of the superintendent and five assistants. Dr. E. A. Christian became Assistant Physician at the State Hospital in 1882. In 1889 he was advanced to the position of Assistant Superintendent, and in 1894 he became Superintendent. His administration has been marked by broad human sympathy based upon a high degree of technical knowledge in the diagnosis and care of the insane. We are honored by the presence in our midst of such an outstanding physician.

OAKLAND COUNTY TUBERCULOSIS HOSPITAL

This institution, recently completed, is a model of its type in the country. It is beautifully located six miles west of Pontiac and accommodates 180 patients. A new children's unit for 85 additional patients is nearing completion. The Tuberculosis Hospital has its own staff, headed by Dr. Walter Werner, who is eminently qualified as a tuberculosis specialist. He has three medical assistants and one visiting dentist. Dr. E. J. O'Brien of Detroit serves as visiting surgeon.

We are justly proud of this institution, for we feel that results demonstrate that Oakland County has taken the most advanced step in the diagnosis and treatment of tuberculosis.

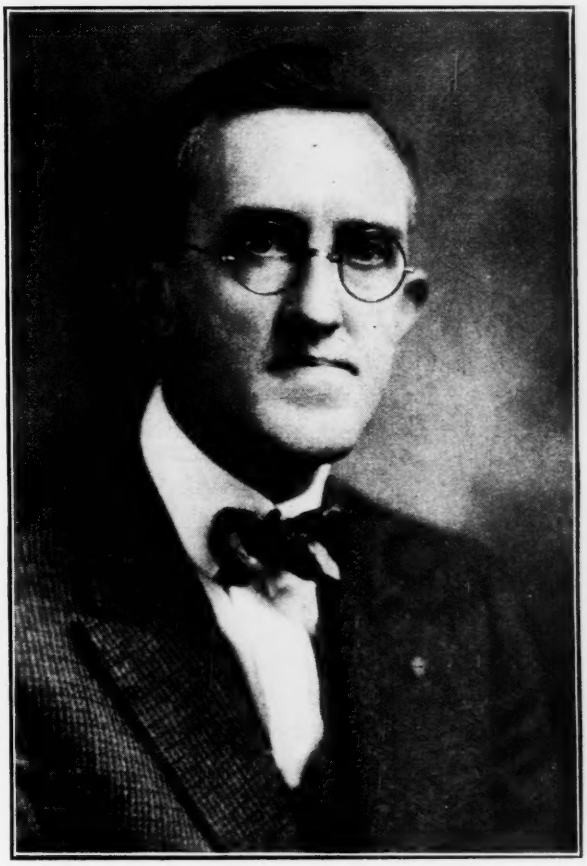
PONTIAC CITY HEALTH DEPARTMENT

A few facts concerning our Health Department, we believe, will be of interest. Headed by Dr. C. A. Neafie, the Health Department has established an enviable record, not only within the state, but nationally. Dr. Neafie has been a valued member of the Oakland County Medical Society, serving repeatedly in official capacity, and now represents this district as councilor in the State Society. He is widely known as a Health Commissioner, having served two years as President of the Michigan Public Health Association, two years as President of the Oakland County Public Health Association. He is a Fellow of the American Public Health Association and a member of the Society of American Bacteriologists, and of the International Association of Medical Health Officers.

With a population in 1930 of 65,000, Pontiac had a death rate of 8.1 per thousand. The average death rate in Pontiac, 1920-29 was 12.6 per thousand. The Bureau of Census reporting 81 of the larger cities of the country gives a general death rate of 11.9. In this list Flint in 1930 had a rate of 8.9, Detroit 9.2, Grand Rapids 10.1.

Causes of death in Pontiac for 1930 showed heart disease leading the list, followed by premature birth and other diseases of early infancy. Cancer ranked third and automobile fatalities held fourth place, with forty deaths, twenty-nine of which occurred from accidents outside of the city.

Our birth rate shows 35.3 per cent born in hospitals, as compared with the standard of 40 per cent set by the American Public Health Association. The infant mortality rate for 1930 was the lowest with one exception in our history. This improvement



DR. CHARLES A. NEAFIE, COUNCILLOR

speaks for the improved attitude of the community, in which the prenatal care visits by the Public Health nurses played no small part. In ten years we have reduced the infant mortality rate 34 per cent. Continued stress in public health education exercised through the Health Department and its nurses has materially altered the records for communicable diseases. Public Health nurses carry on school visits in the Parochial Schools, in addition to their other duties, the public schools being handled through their own Health Department and nurses.

A limited amount of clinic work is done through the Pontiac Health Department which aims to serve as a clearing house for those needing medical or surgical attention.

Individuals needing treatment are referred to private physicians or to clinics for indigent care.

The Public Health Laboratory plays an important part in the Department's work, and is prepared to render laboratory tests to physicians in all communicable diseases. Not the least of the laboratory time is spent in control tests of water supply, milk supply and food inspection. Milk inspection is under the direction of two full time inspectors with a veterinarian in charge of this service. All milk supply in the County now comes from tuberculin tested herds. There are now three pasteurizing plants in the city and four Grade A raw milk farms distributing milk. Commenting on the laboratory records of tested milk, the Bureau of Dairying, Michigan Department of Agriculture, makes this statement, "Records such as this, which can no doubt be equalled by other Michigan cities, show the great improvement in the quality of city milk supplies which has been accomplished during the relatively short period of five years."

Sanitary inspection of stores and restaurants has been stressed, including a weights and measures survey. A veterinarian devotes his entire time to meat inspection.

Sanitation of the community is well controlled with an abundant pure water supply, and a modern sewage disposal plant. The Health Department is ever watchful that these facilities are properly maintained and seeks to eliminate all private supplies of questionable nature.

Sanitation in the playgrounds and bathing beaches is supervised, and the Health Department assists the City Engineering Department in bacteriological survey of neighboring lakes and streams.

So efficient has been our Health Department, we take pride in its comparison with that of any city, and we feel a personal pride in feeling that Dr. Neafie, its director, practices in his work the high ideals of the Medical Profession.

OAKLAND COUNTY HEALTH DEPARTMENT

Under its director, Dr. John Monroe, the Oakland County Health Department is rendering a valuable medical and community service. In this department are two assistant directors, Dr. V. K. Volk, who works out of the Pontiac office, and Dr. C. H. Benning, director for the Royal Oak district. In the Pontiac office are seven nurses, including one supervisor, one clinic nurse, and five public health and school nurses; four other assistants are employed in statistical work, collection service and bacteriological work. The Royal Oak office which serves the southern portion of the County has, besides its director, a quarantine officer, nurse and clerk.

Dr. Monroe believes that the function of his department is primarily one of education, and with that end in view he is giving special attention to a Health Education Program in the County schools. His nurses are carrying on health education in 95 rural schools and in 14 village schools not already supplied with a health service.

A tuberculosis and venereal clinic is maintained by this department and the usual service in matters of sanitation, dairy and food inspection. The County maintains a hospital for contagious diseases, which is under Dr. Monroe's direction. This hospital is of recent construction, thoroughly modern and especially designed for the care of contagious work. It has a bed capacity of 85 which has been stretched upon demand to 120. It is well served by graduate nurses and includes a thoroughly equipped laboratory which handles the work for the County Health Department.

In addition to the Contagious Hospital and Nurses Home, the County has built, on adjacent property, an infirmary which is equipped for minor medical service, which is supplied by the City Physicians. There is also a fine new Juvenile Home which provides most modern facilities for the housing of 100 children. These children are partially wards of the city who are given temporary shelter during the adjustment of home conditions, and also a group of delinquents sentenced to confinement through the Probate Court. This building was carefully planned to meet the medical requirements of such an institution. It contains special admission rooms for examination of children, fumigation of clothing and an isolation ward for quarantine. In addition to the regular staff, a graduate nurse is always on duty and a visiting physician is on call. The visiting physician makes examination of all admissions, handles vaccinations and supplies necessary medical attention.

LOCAL COMMITTEES 1931 ANNUAL SESSION

General Chairman.....Robert H. Baker

Centennial Committee.....Frederick A. Baker, Chairman
Leon F. Cobb
John D. Monroe
Charles A. Neafie

Halls.....P. V. Wagley, Chairman
Ethan B. Cudney
John Lambie
F. D. German
Karl Zinn
Donald Hoyt

Hotels and Rooms.....Clifford T. Ekelund, Chairman
Loren C. Sheffield
L. Warren Gately
E. Kyle Simpson

Entertainment.....Aaron D. Riker, Chairman
L. A. Farnham
Bertil T. Larson
Edward Christie
B. M. Mitchell

Publicity.....A. V. Murtha, Chairman
Chauncey Burke
Donald F. Hoyt
George A. Sherman
Charles A. Neafie

Registration.....Harold A. Furlong, Chairman
Robert Cooper
Harry A. Sibley
Frank A. Mercer
C. G. Darling, Jr.

GENERAL PROGRAM, 1931

Annual Session of the Michigan State Medical Society, Centennial Meeting of the Oakland County Medical Society

1. Sunday Evening, September 20, Public Memorial Service, Baptist Tabernacle.
2. Monday, September 21, Council Meetings, etc.
3. Monday, September 21, 6 P. M., Centennial Meeting of the Oakland County Medical Society. Dinner at 6 P. M. Invited Guests Officers and Council of the State Medical Society. Speaker, Clark D. Brooks of Detroit. Subject: History of the Oakland County Medical Society. (Place to be announced.)
4. Tuesday, September 22, morning and afternoon sessions of the House of Delegates.
5. Tuesday Evening, September 22, evening session of the House of Delegates to be followed by Smoker at the Bloomfield Hills Country Club; Hosts, Oakland County Medical Society; Guests, all attending the Convention. (Smoker will be informal, starting immediately after the evening session. Transportation will be provided.)
6. Wednesday, September 23, morning and afternoon, scientific section meetings.
7. Wednesday Evening, September 23, General Session, Baptist Tabernacle; Invocation by Rev. Bates G. Burt; Welcome by Dr. L. A. Farnham, President of the Oakland County Medical Society.
   President's address, Dr. Stone.
   Address by Invited Guest.
8. Thursday Morning, September 24, Section Meetings.
9. Thursday Afternoon, September 24, General Section Meeting, Presbyterian Church Auditorium.
10. Thursday Evening, September 24, closing meeting, Centennial Program. Chief speaker, Dr. Fishbein. (See evening program, Centennial.)
11. Special golf tournament, time and place to be announced.

WOMEN'S AUXILIARY PROGRAM

Mrs. Frank A. Mercer, President and General Chairman

Reception Committee,
Mrs. Raymond Tuck, Chairman
Mrs. D. G. Castell
Mrs. A. L. Brannock
Mrs. George A. Sherman
Mrs. A. V. Murtha
Mrs. Harry A. Sibley

Sightseeing Tour Committee,
Mrs. Robert H. Baker, Chairman
Mrs. J. E. Church
Mrs. Frederick A. Baker

Bridge Party Committee,
Mrs. B. M. Mitchell, Chairman
Mrs. Bertil T. Larson
Mrs. Hubert Heitch

Style Show Committee,
Mrs. Leon F. Cobb, Chairman
Mrs. Frank B. Gerls
Mrs. Ethan B. Cudney

General Meeting Luncheon Committee,
Mrs. Clifford T. Ekelund, Chairman
Mrs. Harold A. Furlong
Mrs. C. A. Neafie

Women's Golf Committee,
Mrs. A. D. Riker, Chairman
Mrs. Campbell Harvey
Mrs. Donald F. Hoyt

The Auxiliary is planning a special sightseeing trip to the Cranbrook School and estates in Bloomfield Hills.

An evening bridge party Tuesday evening, September 22.

Style show to be held during the convention.

General Meeting of the State Women's Auxiliary will be held Wednesday afternoon, September 23, including luncheon.

Special golfing privileges will be afforded women guests.

WRITE FOR
YOUR HOTEL
RESERVATIONS

Official Program

(Preliminary)

111th Annual Meeting--Michigan State Medical Society, Pontiac, Mich., September 22, 23 and 24, 1931

Celebrating the 100th Anniversary of the Oakland County Medical Society

OFFICIAL CALL

The Michigan State Medical Society will convene in annual session in Pontiac on Sept. 22, 23, 24, 1931. The provisions of the Constitution and By-Laws and the official program will govern the deliberations and business of this annual session.

R. C. STONE, *President*
B. R. CORBUS, *Chairman Council*
H. J. PYLE, *Speaker*

Attest:
F. C. WARNSHUS, *Secretary*

DAILY SCHEDULE

Sept. 21—COUNCIL SESSION
4:00 P. M.—Hotel Waldron.
Sept. 22—MASONIC TEMPLE
10:00 A. M.—House of Delegates.
2:15 P. M.—House of Delegates.
7:30 P. M.—House of Delegates.
9:30 P. M.—Entertainment.
Sept. 23—
9:15 A. M.—Scientific Sections.
1:30 P. M.—Scientific Sections.
7:30 P. M.—General Session.
Sept. 24—
9:15 A. M.—Scientific Sections.
1:30 P. M.—Combined Section Meeting.
7:30 P. M.—General Session.

MEETING PLACES

MASONIC TEMPLE:
Registration and Information.
Commercial Exhibits.
Scientific Exhibits.
Dermatology and Syphilology.
Gynecology and Obstetrics.
Ophthalmology and Otology.
Pediatrics.
1ST BAPTIST CHURCH
Surgery.
1ST PRESBYTERIAN CHURCH
Medicine.
Combined Section Meeting.
Health Exhibits.
TABERNACLE:
General Session—Wednesday.
General Session—Thursday.

HOTELS

WALDRON—$3.00 to $8.00.
Officers and Delegates.
HELDENBRAND—$2.00 to $9.00.
ROOSEVELT—$1.50 to $5.00.
LOCHAVEN COUNTRY CLUB—$2.50 to $3.50.
DR. CLIFFORD T. EKELUND
906 Riker Bldg., Pontiac
Chairman of Committee on Hotels

HOUSE OF DELEGATES

Place: Masonic Temple.
Time: 10:00 A. M., September 22.
Speaker: H. J. Pyle, Grand Rapids.
Secretary: F. C. Warnshuis, Grand Rapids.

ORDER OF BUSINESS

1. Call to Order.
2. Report of Committee on Credentials.
3. Roll Call.
4. Minutes.
5. Speaker's Address—H. J. Pyle.
6. President's Address—R. C. Stone.
7. President-elect's address—C. F. Moll.
8. Annual Report of Council.
9. Appointment of Reference Committees.
   Business.
   Officers' Reports.
   Council Reports.
10. Election of Nominating Committee.
    NOTE: No two members from one Councilor District shall be elected to the Nominating Committee.
    Duties of Nominating Committee:
    (*a*) Act as Tellers.
    (*b*) Nominate A. M. A. Delegates to succeed: Carl F. Moll (term expired); alternate, W. J. Cassidy (term expired).
    (*c*) Place of next annual session.
11. Reports of Committees:
    (*a*) Civic and Industrial Relations.
    (*b*) Cancer Committee.
    (*c*) Delegates to A. M. A.
    (*d*) Legislative Committee.
12. Resolutions and New Business.
13. Recess.

SECOND SESSION
2:30 P. M.

14. Roll Call.
15. Report of Reference Committees
16. Unfinished Business.
17. New Business.

THIRD SESSION
7:30 P. M.

18. Roll Call.
19. Report of Reference Committees.
20. Elections:
    (*a*) President-elect
    (*b*) Report of Nominating Committee.
    (*c*) Place of Meeting.
    (*d*) A. M. A. Delegate and Alternate.
    (*e*) Councilors.
        NOTE: Nominations are made by delegates of each District:
        1. Fourth Dist., C. E. Boys (term expires).
        2. Fifth Dist., B. R. Corbus (term expires).
        3. Sixth Dist., Henry Cook (term expires).
    (*f*) Speaker.
    (*g*) Vice-Speaker.
21. Unfinished Business.
22. Adjournment.

FIRST GENERAL SESSION

Time: Wednesday, September 23, 7:30 P. M.
Place: Tabernacle.

1. Invocation.
2. Welcome Address: L. A. Farnham, M.D., President, Oakland County Medical Society.
3. Announcements.
4. In Memoriam:
   Memorial Record—The Secretary.
5. President's Annual Address—R. C. Stone, M.D., Battle Creek.
6. Address—Invited Guests.
7. Introduction of President-elect—Carl F. Moll, M.D., Flint.
8. Adjournment.

SECOND GENERAL SESSION

Time: Thursday, September 23, 7:30 P. M.
Place: Tabernacle.

1. Introduction—President Oakland County Medical Society.
2. Announcement of prizes for Public Competition.
3. Address: "Border Frontiers of Medicine"—Morris F. Fishbein, M.D., Chicago, Editor Journal American Medical Association.
4. Adjournment.

SCIENTIFIC SECTIONS

Section on General Medicine

Chairman: MILTON R. SHAW, Lansing.
Secretary: I. W. GREENE, Owosso.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. Chairman's Address — "Agranulocytosis"—Case report—Dr. Milton R. Shaw, Lansing.
2. "The Treatment of Pernicious Anemia in the Light of Recent Discovery"—Dr. Cyrus Sturgis, Ann Arbor.

   Characteristics of pernicious anemia patients; achlorhydria and changes in the chemistry of gastric digestion; relation between the stomach defect and development of red blood cells; the nature of the action of liver therapy; the rationale of Ventriculin; its mechanism of action; effect on patients with pernicious anemia; change in red blood cell count; change in weight; subjective symptoms; dosage; practical points in the treatment of pernicious anemia.
3. "Neurological and Psychopathic Manifestations of Pernicious Anemia"—Dr. Charles Kiley, Cincinnati, Ohio.

   The almost unfailing regularity of the tracts involved when pernicious anemia is accompanied by cord lesions has been a source of interesting speculation. Lasting remissions in the anemia with heliotherapy have not been accompanied by arrest of these degenerations, proving that the nervous lesions are not the primary cause of anemia. That they are probably a result is attested by the occurrence of identical lesions in grave anemias not of the pernicious type. The recognition of pernicious anemia as a deficiency disease held in check by some unknown constituent of liver and the stomach mucosa seems to justify the conclusion that the cord lesions are secondary to the anemia, as the former are now seen to recede completely when the nature of the underlying blood disease is recognized early. The well established rule that tissue of the central nervous system cannot regenerate is borne out. The new forms of therapy give promise of prevention of the nervous lesions by arresting the primary disease before nerve damage has become irreparable.
4. "Secondary Anemias"—Dr. Charles H. Watkins, Mayo Clinic.

   The diagnosis of various types of secondary anemia will be discussed with respect to clinical manifestations and morphological features of the blood. In the light of the diagnosis, an evaluation of the efficacy of different methods of treatment will be attempted.
5. "New Aspects of Symptoms, Diagnosis and Treatment of the Leukemias"—Dr. Raphael Isaacs, Ann Arbor.

   The neoplastic nature of the disease; types of blood cells affected; leukemic and aleukemic states; aids in diagnosis; symptomatology, the cause of the symptoms and their relation to the peripheral blood picture; use of roengen rays, radium, arsenic, Lugol's solution, blood transfusion, iron, liver, liver extract, and Ventriculin; prognosis. (Lantern Slides.)

AFTERNOON SESSION

Wednesday, September 23—1:30 P. M.

1. "The Significance of Circulatory Disturbance in Certain Psychoses"—Drs. Theophil Klingman and H. S. Millett, Ann Arbor, Michigan.

   A survey of 200 case records of psychotic patients at the age of 40 and up revealed to the authors the fact that it was possible to group them into four organic syndromes as follows: (1) Endocrine, (2) Cardiovascular renal, (3) Pulmonary, (4) Gastro-intestinal. Both subjective symptoms are taken into consideration. The secondary group is discussed in this essay.
2. "The Present Status of Epidemic Encephalitis"—Drs. Fred P. Currier and David B. Davis, Grand Rapids.

   The paper presents a brief and concise review of the history and etiology of epidemic encephalitis. The authors will present a summary of one hundred and twenty-five cases of their own, including the results of, and experiences with, treatment. A moving picture demonstration of the unusual cases will occupy five minutes of the allotted time for this paper.
3. "Undulant Fever" (Brucelliasis)—Dr. Walter M. Simpson, Dayton, Ohio.

   The recognition of undulant fever as a common and widely distributed disease of man is largely a development of the past three years. Over 2,000 cases of undulant fever, occurring in every state of the Union, have been recorded by state health departments during the past two years. This paper will be based upon clinicopathologic study of 128 cases of undulant fever which have been encountered in Dayton and the surrounding communities.
4. "Treatment of Diabetic Acidosis and Coma"—Drs. D. P. Foster, Wm. L. Lowrie, F. MacDonald.

   The treatment of diabetic acidosis and coma demands emergency measures. The underlying principle is the reestablishment of normal body reactions by the use of liberal amounts of carbohydrates, insulin, and fluids. The detail and technic of applying this principle is

outlined. A chart to facilitate the immediate recording of all laboratory and clinical data is shown. Charts illustrating the results of treatment are shown.

Election of Chairman.

MORNING SESSION

Thursday, September 24—9:15 A. M.

JOINT MEETING OF MEDICAL AND DERMATOLOGICAL SECTIONS

1. "Visceral Syphilis" — Dr. Paul A. O'Leary, Mayo Clinic.
2. "Tularemia"—Dr. Walter M. Simpson, Dayton, Ohio.

Tularemia probably occupies a unique position in medical history because of the rapidity with which it has evolved from the obscurity of a clinical curiosity to the prominence of an important public health problem. Six years ago tularemia was practically an unknown name in the medical literature; reports of about 15 cases had appeared up to that time. Tularemia has now been recognized in all but five of the states in the Union. The recognition of the widespread incidence of the disease in Soviet Russia, Japan, and Norway indicates that the disease is probably world-wide in its distribution. While wild rabbits constitute the most important reservoir of infection for other wild animals and man, new animal hosts and insect vectors have been discovered. This paper will be based upon a summary of recent investigations and a consideration of the Dayton experience with 88 cases.

3. "A Few Skin and Mucous Membrane Lesions of Interest to General Medicine"—Dr. G. H. Belote, Ann Arbor.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

GENERAL SESSION OF ALL SECTIONS

1. Diagnosis of Early Tuberculosis"—Dr. J. A. Meyers, Minneapolis, Minnesota. —For Medical Section.

The diagnosis of early tuberculosis does not necessarily consist in finding a demonstrable minimal lesion, as we have so often thought, but rather upon discovering evidence of the infection soon after it has occurred, and then watching for the first manifestations of the disease. This is best done by observing a group of children or adults who, on first examination, react negatively to the tuberculin test. By repeating the test at intervals of three to six months, one detects those who have been exposed and infected with tubercle bacilli very early in the course of the infection. By close observation of this recently infected group, one is very often able to detect very early tuberculosis lesions. These lesions frequently appear months and even years before the patient suffers from any symptoms of tuberculosis. In the past our education pertaining to early diagnosis has consisted largely of teaching the public the symptoms of tuberculosis. When symptoms appear, often we are not dealing with early tuberculosis. (Lantern slides and X-ray films will be used to demonstrate extremely early tuberculosis lesions as well as those observed over long periods of time, before symptoms appear.)

Section on Surgery

MORNING SESSION

Wednesday, September 23—9:15 A. M.

Chairman: GROVER C. PENBERTHY, Detroit.
Secretary: GEORGE J. CURRY, Flint.

1. Chairman's Address—Dr. Grover C. Penberthy, Detroit.
2. "Surgical Lesions of the Large Bowel" —Dr. Fred W. Rankin, Rochester, Minnesota.
3. "Primary Ileostomy in the Treatment of Generalized Peritonitis"—Dr. E. C. Baumgarten, Detroit.
4. "Carcinoma of the Stomach with Special Reference to Early Diagnosis and Operability"—Dr. Henry K. Ransom, Ann Arbor.

AFTERNOON SESSION

September 23—1:30 P. M.

5. "Poliomyelitis"—Dr. F. C. Kidner, Detroit.
6. "The Conservative Operative Treatment of Hydronephrosis"—Dr. John K. Ormond, Detroit.
7. "Tumors and Their Behavior"—Dr. Henry J. Vanden Berg, Grand Rapids.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Chairman.

8. "Studies on Fractures of the Neck of the Femur"—Dr. D. B. Phemister, Chicago, Ill.
9. Title not announced to date—Dr. Dean Lewis, Baltimore, Maryland.
10. "Diseases of the Spine Simulating Pott's Disease and Compression Fractures"—Dr. Lawrence Reynolds, Detroit.
11. "Observations of Twenty Years in Brain and Spinal Cord Surgery"—Dr. Wm. J. Cassidy, Detroit.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

Symposium—Surgical Representative

12. "Surgical Measures in Pulmonary Tuberculosis"—Dr. John Alexander, Ann Arbor.

Section on Obstetrics and Gynecology

Chairman: HARRY M. NELSON, Detroit.
Secretary: HAROLD A. FURLONG, Pontiac.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

Gynecology

1. Subject to be announced—Dr. Arthur H. Curtis, Chicago, Ill.
2. "Some Urological Accidents Following Pelvic Operations"—Dr. Harold Morris, Detroit.
3. "Management of Sterility Studies"—Dr. Clarence Toshach, Saginaw.
4. "Present Trends to Control Impregna-

tion"—Dr. Harrison S. Collisi, Grand Rapids.

5. Subject to be announced—Dr. Charles F. DuBois, Alma.

Obstetrics

1. Subject to be announced—Dr. Fred L. Adair, Chicago, Ill.
2. "The Saving of the Perineum During Delivery"—Dr. J. E. Cooper, Battle Creek.
3. "Treatment of Asphyxia Neonatorum"—Dr. Harold Henderson, Detroit.
4. "Indications for Cesarean"—Dr. Roger Siddall, Detroit.
5. Department of Obstetrics and Gynecology—University Hospital, Ann Arbor.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Chairman.

1. "Conservative Treatment in Toxemias of Pregnancy"—Dr. Robert Kennedy, Detroit.
2. "Acute Pelvic Inflammatory Disease"—Dr. I. S. Gellert, Detroit.
3. "Post Mortem Cesarean Section with Survey of the Literature"—Dr. Alexander Campbell, Grand Rapids.
4. "Actinomycosis of Fallopian Tubes—report of a case"—Dr. Charles E. Boys, Kalamazoo.
5. "Treatment of Trichomonas Vaginalis Vaginitis"—Dr. Howard Cummings, Ann Arbor.
6. Department of Obstetrics and Gynecology—University Hospital, Ann Arbor.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

Symposium on Tuberculosis

Section on Pediatrics

Chairman: JOHN P. PARSONS, Ann Arbor.
Secretary: CAMPBELL HARVEY, Pontiac.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. "A Case of Congenital Ectodermal Dysplasia"—Dr. A. M. Hill, Grand Rapids.
   A case demonstrating unusual defects which are probably of a hereditary nature will be reported. These defects include, hair, teeth, and skin, all of which are derived from the ectoderm of embryonic life.
   The paper will include a short review of the literature and a discussion of the etiology, symptoms and diagnosis of the "Anhidrotic" type of ectodermal dysplasia.
2. "Correlation of Clinical, Roentgenological, and Autopsy Findings in Childhood Tuberculosis"—Dr. John A. Bigler, Clinical Assistant in Pediatrics, Northwestern University, Chicago, Ill.
   Roentgenograms of the chest are practically essential in the diagnosis of tuberculosis in children. This is true because clinical and physical manifestations are often absent or very questionable. As tuberculosis in childhood differs from that found in the adult, the same criterion in X-ray interpretation cannot be used. This report deals with the interpretation of chest roentgenograms in childhood tuberculosis based and checked upon observations at necropsy.
   Discussion—Dr. Fred Hodges, Professor of Roentgenology, University of Michigan, Ann Arbor.
3. "Artificial Immunity to Tuberculosis, with Special Reference to the Bacillus of Calmette and Guerin (B.C.G.)"—Dr. Malcolm H. Soule, Associate Professor of Bacteriology, University of Michigan, Ann Arbor.
   The data of many investigators in several countries indicate confirmation of the work and contentions of Calmette that the feeding of the living bacillus of Calmette and Guerin to the newborn produces an active immunity to tuberculosis and the bacillus when properly cultured is avirulent.
   Discussion—Dr. Daniel Budson, Department of Pediatrics, University of Michigan, Ann Arbor.
4. "Skin Temperature"—Dr. Walter G. Maddock, Instructor, Department of Surgery, University of Michigan, Ann Arbor.
   A brief résumé of skin temperature findings with variations under normal and abnormal conditions will be presented.

AFTERNOON SESSION

Wednesday, September 23—1:30 P. M.

1. "Acute Appendicitis in Infancy"—Dr. Rockwell Kempton, Saginaw.
   The unexpected finding at autopsy of a gangrenous appendix in an infant aged eighteen months who had for a period of nine days been suffering from nausea, vomiting and diarrhea emphasizes the difficulty of diagnosis of acute appendicitis during the first two year of life. While statistics would seem to prove the rarity of the condition during this period, it is well to consider that the diagnosis is probably seldom made, and then only in the more typical cases.
2. "The Intracranial Tumors of Childhood"—Dr. Loyal Davis, Associate Professor of Surgery, Northwestern University, Chicago, Ill.
   The various intracranial tumors which are most common in childhood include the medulloblastomas of the fourth ventricle, cerebellar astrocytomas and suprasellar cysts. These tumors are discussed from the standpoint of their early symptomatology and the results of surgical treatment.
3. "Pachymeningitis Hemorrhagica Interna in Infants"—Dr. Edgar A. Kahn, Assistant Professor of Surgery, University of Michigan, Ann Arbor.
   This condition is more common than is generally supposed. During the past four years ten cases have been discovered which were sent in as hopeless hydrocephalics. The differential diagnosis, prognosis and therapy will be discussed.
4. "A New Method for the Study of Edema"—Dr. F. H. Lashmet, Instructor, Department of Internal Medicine, University of Michigan, Ann Arbor.

Heretofore most studies of edema have been based upon changes in body weight correlated with free fluid intake and urine output. The fallacy of this method is pointed out and a more accurate method based on complete water exchange described.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Section Officers.

1. "A Review of the Literature on Epidemic Poliomyelitis"—Dr. Dorman E. Lichty, Instructor, Department of Pediatrics, University of Michigan, Ann Arbor.
2. "Epidemic Poliomyelitis" (exact title to be announced)—Dr. J. P. Leake, Senior Surgeon, U. S. Public Health Service, Washington, D. C.
3. "Clinical Aspects of Poliomyelitis"—Dr. John Gordon, Medical Director Division of Communicable Diseases, Herman Kiefer Hospital, Detroit.

Clinical knowledge has progressed to such a state that physicians can no longer be content with a diagnosis of infantile paralysis. Well developed principles permit diagnosis of poliomyelitis before paralysis. The clinical forms of the fully developed infection depend upon focal localization in the central nervous system. Differentiation from other common infections is possible by clinical methods and readily confirmed by examination of the cerebrospinal fluid. Recent developments in the management of the disease contribute toward a lower fatality rate and lessened permanent disability.

AFTERNOON SESSION

September 24—1:30 P. M.

Symposium on Tuberculosis

(To be presented before the combined sections)

Speaker for Pediatric Section:

"Tuberculosis in Children and Adolescents"—Dr. Henry D. Chadwick, Tuberculosis Controller, Department of Health, City of Detroit.

Tuberculosis should be considered one of the serious diseases of childhood. It causes more deaths in persons under twenty than any other communicable disease. There are three distinct periods in the life of a child when there is a marked difference in their resistance to tuberculosis as shown by the death rate. These periods are under five, five to ten, and ten to twenty. Early diagnosis is dependent upon the use of the tuberculin test and roentgenogram of the chest. An analysis of 110 cases of the adult type of tuberculosis found in school children will be given.

Dermatology and Syphilology

WEDNESDAY, SEPTEMBER 23

9:15-11:30

Clinic of Common Skin Diseases.

Demonstrating diagnostic points.

In charge of Drs. Jamieson, Bartholomew, Van Rhee, Troxell, Hyde and Saunders.

1:15 P. M.

Chairman's Address—Dr. Cyril K. Valade, Detroit.

Election of Officers.

Epidermophytosis of Hands and Feet—Dr. Arthur E. Schiller, Detroit.

Prenatal and Congenital Syphilis (Prevention and Treatment)—Dr. W. C. Wander, Detroit.

Cutaneous Syphilis—Dr. Paul A. O'Leary, Mayo Clinic.

THURSDAY, SEPTEMBER 24

JOINT SESSION OF MEDICAL AND DERMATOLOGICAL SECTIONS

9:00 A. M.

Visceral Syphilis—Dr. Paul A. O'Leary, Mayo Clinic.

Tularemia—Dr. W. M. Simpson, Dayton, Ohio.

A Few Skin and Mucous Membrane Lesions of Interest to General Medicine—Dr. G. H. Belote, Ann Arbor.

1:30 P. M.

Tuberculosis by All Sections.

Tuberculosis of the Skin—Dr. H. L. Keim, Detroit.

GENERAL INFORMATION

1. *Hotels:* Write to hotel managers or to Dr. Eklund for your hotel reservations. Delegates are urged to write to Hotel Waldron.

   Detroit hotels will not be available. The American Legion has every available Detroit reservation.
2. *Golf:* Guest cards will be available for local country clubs.
3. *Entertainment:* Oakland County Medical Society will entertain officers and delegates at the Bloomfield Country Club at 9:30 P. M., Tuesday, Sept. 22. Ladies' entertainment will be provided for by the Woman's Auxiliary.
4. *Health Exhibits:* The local society is sponsoring public health exhibits and talks in the First Presbyterian Church.
5. *Commercial Exhibits:* These will be placed in Masonic Temple.

   Scientific Exhibits: Be sure and see these in the Masonic Temple.

   Registration: Registration Bureau will be located in the Masonic Temple. It will be open from 8:30 A. M. to 6:00 P. M. daily.

   Combined Section Meetings: All the Scientific Sections will combine in a general meeting at 1:30 P. M. on Thursday, Sept. 24. See general program for list of speakers who will discuss tuberculosis.

Centennial Meeting: The Oakland County Medical Society will celebrate its organizational centennial in the Tabernacle on Thursday evening, Sept. 24, at 7:30 P. M. It will be a public meeting. The main address will be by Dr. Morris Fishbein, Editor of the Journal of the American Medical Association. The local society will award three hundred dollars in prizes. Plan to stay for this celebration.

Section on Ophthalmology and Otolaryngology

Chairman: CARL F. SNAPP, Grand Rapids.
Secretary: H. O. WESTERVELT, Benton Harbor.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. Chairman's Remarks.
2. "Non-specific Protein Therapy in Ophthalmology"—Dr. W. Edward McGarvey, Jackson.
3. Subject to be announced—Dr. A. C. Furstenberg, Ann Arbor.
4. "Tears at the Ora Serrata. Their Significance and Treatment"—Dr. Peter C. Kronfeld, Chicago, Ill.
   Discussion: Dr. George Slocum.
5. Some subject of Plastic Surgery—Dr. James T. Mills, Grand Rapids.

NOON LUNCHEON

12:00 O'clock

Round Table Conference: Dr. Peter C. Kronfeld of Chicago. Discussion of Eye Problems of Everyday Practise.

WRITTEN QUESTIONS for discussion must be handed in early for his consideration.

N.B.: MAKE YOUR RESERVATIONS FOR LUNCHEON EARLY.

MORNING SESSION

Thursday, September 24—9:15 A. M.

1. "Bilateral Optic Neuritis and Electric Retinitis"—Report of two cases—Dr. Ray W. Hughes, Detroit.
2. "Complications of Mastoiditis"—Report of cases—Dr. A. P. Wilkinson, Detroit.
3. "Chalazion Complicated by Orbital Abscess"—Case report—Dr. A. R. McKinney, Saginaw.
4. "Diseases of the Salivary Glands"—Dr. Wm. V. Mullin, Cleveland.
5. "Malignant Leukopenia"—Report of cases—Dr. R. N. Sherman, Bay City.
6. Eye—Dr. Ralph H. Pino, Detroit.
7. Nose or Throat—Case report—Dr. R. E. Mercer, Detroit.
8. Ear, Nose, Throat or Eye—Case report—Dr. Audrey O. Brown, Detroit.

LUNCHEON

12:00 O'clock

Election of Chairman.

Round Table Discussion: Dr. R. Bishop Canfield of Ann Arbor. Discussion of Ear, Nose and Throat Problems of Everyday Practise.

EVERYONE IS INVITED TO HAND IN WRITTEN QUESTIONS EARLY FOR DR. CANFIELD'S CONSIDERATION.

N.B.: MAKE YOUR LUNCHEON RESERVATIONS EARLY.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

Symposium on Tuberculosis. Dr. William V. Mullin will speak on Tuberculosis of the Nose, Throat and Larynx.

All the Sections will be represented in this symposium by their guest speakers.

MONTHLY COMMENT

This issue contains the preliminary program for the 111th Annual Meeting in Pontiac, Sept. 22, 23, 24. The September issue will contain the final program, list of delegates and the reports of standing committees.

Oakland County Medical Society, our hosts, assures us that a cordial welcome awaits. At this session they celebrate their 100th organizational birthday. Several new interesting and educational features have been prepared that will add much to this annual session. Note the dates, plan to attend, write for your hotel reservations.

* * *

Members are requested to refer to the July issue imparting the discussions of the conference of the council with several welfare agencies. In conformity with the council's instructions a synopsis has been sent to the officers of county societies with a request for comment and criticisms. A questionnaire will be sent to members in those counties in which these agencies are operating. The council is desirous of re-

ceiving these field views in order that a report may be formulated and rendered to the House of Delegates. Please send your replies, at an early date, to the State Secretary.

* * *

Your county society officers, your Councilor and your state officers welcome your inquiries. Every available assistance is at your command. Utilize it for it is a benefit of membership.

* * *

Frequent inquiries are received as to whether an osteopath or a chiropractor can do this or that or render certain forms of service. The law definitely defines their limitations of practice. Many, yes the majority, overstep these limitations and so violate the laws. There is but one group charged with enforcement authority—the county prosecuting attorney. For enforcement in your county see your county prosecutor and insist that he discharge this obligation. Unfortunately no other agency or body has the power or the funds to institute prosecutions. Bills conveying that power were defeated by the last legislature.

* * *

This issue contains the program for the annual meeting of the Upper Peninsular Medical Society. Our upper peninsular members cordially invite all state society members to attend. You will find them to be royal hosts.

* * *

In these days with attending unrest one may hear almost any kind of a statement or rumor. Most, if not all, are without fact or justification. Before giving credence or being misled secure authoritative facts and information from official sources. Do not be led astray by idle rumor or gossip.

INTERESTING ITEMS FROM NEW YORK STATE

We append some of the interesting items from the annual session of the New York State Society. They are prophetic as well as informative.

RETIREMENT FUND FOR PHYSICIANS

Dr. Patterson of New York: Presented the following resolution:

Whereas, no provision at present exists in the Medical Society of the State of New York for retirement stipends for physicians in the State of New York; and

Whereas, in certain other professions such provision has been successfully made; and

Whereas, it would seem advisable that the delegates here assembled should take appropriate action to this end,

Be it therefore resolved, that the Medical Society of the State of New York through its delegates here assembled authorize the appointment of a Committee of not fewer than five to study ways and means of establishing a Retirement Fund for the benefit of the members of the Medical Society of the State of New York; and

Be it further resolved, that said committee be prepared to make a report at the next regular meeting of this body.

The Speaker: Referred to Reference Committee on New Business C. (Section 99.)

CERTIFICATION OF SPECIALISTS

Dr. Trick of Erie: Presented the following resolution:

The Committee on the Certification of Specialists was appointed to carry out the recommendation adopted by this House in June of 1929.

The solution of this problem is a very difficult one and has been approached with the greatest caution.

At a meeting held in Albany in January, 1931, consisting of representatives from the Department of Education, Board of Medical Examiners, the Deans of the Medical Shcools, the New York Academy of Medicine, and the Medical Society of the State of New York, the following resolution was adopted:

"That the Department of Education in conference with the Medical Society of the State of New York proceed to formulate plans for the preliminary education of specialists."

Shortly after the meeting a resolution to be presented to the House of Delegates of the American Medical Association was published in the bulletin of the American Medical Association. The principal point of the said resolution reads as follows:

"Resolved that the Speaker of the House of Delegates shall appoint by and with the advice of the President and the Board of Trustees a Commission on qualifications for specialists composed of nine members; that the said Commission shall undertake to define the qualifications that should be required of the individual physician who desires to limit his practice to any special field and to be known as a specialist, and that in arriving at such definition the Commission on Qualifications for Specialists should give consideration to questions of education, training, and clinical experience."

That this Committee be enlarged as may seem necessary or desirable; that an appropriation for the expenses of this Committee be included in the budget; that this Committee continue to carry out the intent of the resolution adopted in January in conformity with the work of the Commission of the American Medical Association, if it should be appointed.

We would recommend that a special committee on the certification of specialists be created.

MINIMUM WAGE FOR PHYSICIANS

The following resolution introduced by Dr. Julius Ferber of New York was read by Dr. Messing of New York.

Whereas, the Medical Society of the County of New York after considerable study of the exploitation of physicians by municipal and state departments as well as by lay corporations saw fit to endorse the movement, to demand the five dollar minimum wage per hour for physicians employed on part time, and

Whereas, because the economic distress now prevailing generally forces many physicians to accept a part time position at lesser rate,

Therefore, be it resolved, that the House of Delegates of the Medical Society of the State of New York record its opinion in favor of a minimum wage of five dollars per hour for physicians working upon a part time basis, but

Be it further resolved, that a five dollar per hour minimum charge shall not be so construed as a demand for an increase in salary for medical men employed in regular positions under the Civil Service Laws, nor for physicians holding regular departmental positions which after a term of service entitle the holder thereof to a pension.

PAY CLINICS

Dr. Subkis, New York: Presented the following resolution:

Whereas, there is an increasing tendency on the part of Dispensaries and the Out-Patient Departments of Hospitals and Medical Centers to conduct Pay Clinics, and

Whereas, these Clinics diagnose and treat patients outside of the Provision of the New York State Dispensary Law;

Therefore, be it resolved, that the Committee on Legislation initiate legislation at the next session of the New York State Legislature to the effect of preventing Pay Clinics from being operated under dispensary laws.

MEDICAL PRACTICE BY CORPORATIONS

Dr. Ferber of New York: Presented the following resolution:

Whereas, the Judicial Council of the American Medical Association in its report as published in the American Medical Association Bulletin as of April, 1931, regards the decision of Judge Samuel R. Blake of the Superior Court of the State of California, in and for the County of Los Angeles, in a case of Granville McGowen, plaintiff, vs. Medical Service Corporation, a corporation, defendant, as being of the greatest importance at a time when commercial organizations established for profit are engaging in the sale of medical service in a manner that may be detrimental to the public good and opposed to the progress of scientific medicine,

Therefore, be it resolved, that the House of Delegates of the Medical Society of the State of New York instruct its counsel to bring suit against one of the medical agencies engaging as a corporation, in the practice of medicine; that this suit be pressed for a decision upon two fundamental questions: (1) Can a corporation practice medicine? (2) Is the manner and method of the defendant corporation such as to constitute the practice of medicine?

OPTOMETRY LAW

Dr. Leone of Erie: Presented the following:

Resolved, that the Secretary of the State Medical Society obtain an opinion from the Legal Counsel for the Society on the constitutionality of the amendment to the optometry law enacted in 1931.

RESTRAINT ON COUNTY SOCIETIES

Dr. Garen of Cattaraugus: Presented the following resolution:

Resolved, that it is the sentiment of the House of Delegates of the Medical Society of the State of New York that its members or committees shall not be permitted to engage in the promotion of a medical project, state or national, requiring legislation until such project and the proposed legislation thereon shall have been submitted for consideration to the House of Delegates and approved by a two-thirds vote.

ACCEPTANCE OF SUBSIDIES

Dr. Garen also introduced the following resolution:

Resolved, that no member of this Society or committee of this Society shall be permitted to accept funds, grants, donations or any form of financial assistance either directly or indirectly from personal or lay sources for the promotion of medical projects requiring legislation without permission from the House of Delegates by a two-thirds vote.

MEDICAL PRACTICE BY CORPORATIONS

Dr. Colie: Resolution introduced by Dr. Julius Ferber (Sec. 19): Whereas the Judicial Counsel of the Medical Association in its report as published in the American Association bulletin, as of April, 1931, regards the decision of Judge Samuel R. Blake of the Superior Court of the State of California in and for the County of Los Angeles, in the case of Granville McGowen, plaintiff, vs. Medical Service Corp., a corporation, defendant, as being of the greatest importance at a time when commercial organizations established for profit are engaged in the sale of medical service, in the matter that may be detrimental to the public good and opposed to the progress of scientific medicine, therefore be it

Resolved, that the House of Delegates of the Medical Society of the State of New York instruct its counsel to bring suit against one of the medical agencies engaging as a corporation in the practice of medicine; that this suit be pressed for a decision upon two fundamental questions:

1. Can a corporation practice medicine?
2. Is the manner and method of the defendant corporation such as to constitute the practice and method recommended for adoption?

The Speaker: It may be a departure from the usual order, but the Speaker wishes to ask a question. What is the cost of such a thing going to be?

Dr. Rooney: I was just about to arise to ask the Speaker to request the Counsel of the Society to tell us just what a litigation of this sort means before it is terminated by a decision from the Court of Appeals in the State of New York. It is a very expensive proposition and how it is going to affect us in the State of New York we cannot personally see. So far as I know, the Court of Appeals decisions in this state have uniformly held—and so far as I know still hold—a corporation can neither practice law nor medicine. I should like to request the Speaker to ask Counsel whether I am wrong in that contention and whether a suit of that sort is not necessary.

Mr. Brosnan: There is no question, gentlemen, under the decisions of the Court, a corporation can neither practice medicine nor law. I would hesitate to advise the adoption of this resolution since a proceeding of this kind would be extremely expensive for one thing, and it may result in actions against this Society for another. I think it is a situation we ought to go slow in. I take it the resolution contemplates a criminal action against these corporations, on the ground they are practicing medicine illegally. It would mean the employment of investigators and the collection of evidence and the possibility of throwing the plaintiff, which would be this society, into some sort of libel action, or action for malicious prosecution, false arrest, or something of that kind.

I think it is a situation we ought to think over very carefully before any action is taken.

I think this very resolution came before this body last year, but I believe it was withdrawn. I do not think this lawsuit is necessary.

Dr. Ferber: I fully appreciate the novelty as well as the magnitude of the undertaking advocated in this resolution, but I also know that this is not a

thunderstorm from a clear sky. For the last four to five years, medical men and women have discussed the advisability of initiating a test case in the courts of this state and to determine—first—whether corporations should be allowed to continue the practice of medicine under our Medical Practice Act, and—secondly—what constitutes medical practice by a corporation.

Several years ago it was pointed out, and rightly so, that the Medical Society of the State of New York could not possibly start such action because it did not have the necessary funds to defray the expense incidental to such litigation. Today, we find that Providence has provided for this necessity through the agency of our capable Treasurer, Dr. Charles Gordon Heyd, during whose term of office the treasury of our State Society has managed to accumulate sufficient funds to enable it to protect the legitimate rights of the medical profession.

There are those amongst us who claim that the bringing of such suit by our State Society is not practical because, if we lose, the Defendant Corporation would bring suit for damages amounting to many thousands of dollars. Regardless of the merits of this objection, I am at liberty to state that Providence has also provided for this emergency in the persons of self-sacrificing physicians who are willing to act as plaintiffs and bring suit against a corporation practicing medicine. Unfortunately, they have not the means to finance such action, but with encouragement from the profession they are ready to give their name, time and effort to the testing in the courts of the right of corporations to practice in this Empire State.

As to the legal side of the question, the decision rendered by the Superior Court of California, in and for the County of Los Angeles, in the case of Granville McGowen, plaintiff, vs. Medical Service Corporation, a corporation, defendant, sets ample precedent and gives us a real clue as to the sentiments of judiciary with regard to a corporation indulging in the practice of medicine. The decision handed down by the eminent jurist, Samuel R. Blake, contains in my opinion one of the most noble expressions of the ideal of medical practice that has ever been the privilege of any human being to utter. He states: "The right to practice medicine attaches to the individual and dies with him and it cannot be made a business sheltered under the cloak of corporations having marketable shares descendable under the law of inheritance." In other words, the right to practice medicine is part and parcel of the individual, not to be bartered, commercialized or commissioned.

We must consider, of course, that the adoption of this resolution means action. Unlike other resolutions which are merely an expression of opinion—kept on our minutes for future reference—the adoption of this resolution implies action, responsibility and expense. But, who can point an accusing finger at our State Society that it ever lacked courage and initiative when the medical profession was in need of its influence and endeavor? We have been accused of being conservative, but even our accusers admit that our conservatism has been tempered by deliberation. We were never remiss in our duties to the medical profession, but rather surveyed the field and studied the situation in order not to be carried away by the enthusiastic fancy of radicalism.

Were we now to stand aloof and watch for developments outside of our sphere of activity and influence to bring about the occasion of corporate medicine, we may be adjudged simpletons not knowing how to protect a rare privilege. Nay! We may even be adjudged as indifferent to the degrading influence of corporate medicine on medical practice.

I am confident that each and every one of you assembled here today fully evaluates the significance of this resolution and that you will vote for its adoption.

Dr. Wightman: We have here tonight a man from the Department of Education, Dr. Rypins, who, I think, will speak very briefly and illustrate this thing for us.

He is not a member of this Assembly, but if it is the pleasure of this House to hear from him for two or three minutes, I think he will favor us with his remarks.

The Speaker: Is there any objection on the part of the House of Delegates to hearing Dr. Rypins?

The House granted Dr. Rypins the privilege of the floor.

Dr. Rypins: I think Dr. Rooney has expressed the situation as well as I can. The question as to whether or not a corporation can practice medicine in New York State has been decided on numerous occasions, and within the last three or four years the Attorney General, with the coöperation of the Department of Education, has dissolved several corporations who had been guilty of practicing medicine without licenses.

I do not know what particular corporations you are talking about, but if there is any one who has a particular corporation in mind, the procedure is to refer the matter to me with the facts, and we will attempt to find out whether or not there is a violation of law.

It is not necessary to get a decision of the Court of Appeals. The Court of Appeals has already ruled on that in this state.

You must bear in mind, however, that there are corporations chartered under the Public Welfare Law, such a charitable clinics, and although they are incorporated, they are not incorporated for profit and they cannot be stopped under our law from practicing medicine.

I think most of the complaints you have in mind will have to be brought before the Department of Public Welfare. If, however, you have in mind other corporations for profit which are in your opinion practicing medicine, the proper procedure is to refer all the facts to me with a request for an investigation and prosecution, if the facts warrant it.

Dr. Rooney: I move that the resolution lie on the table.

Motion seconded and carried.

INDUSTRIAL COMMITTEE

The Civic and Industrial Relations Committee of the Michigan State Medical Society calls attention to the Health and Accident Insurance Resolutions which were presented to the House of Delegates of the American Medical Association at its annual meeting in Philadelphia. The resolutions were introduced by Dr. J. D. Brook, the Michigan delegate, and after being discussed by the Reference Committee they were referred to the Bureau of Medical Economics.

This newly created Bureau of the American Medical Association, of which Dr. R. G. Leland is Director, has been instructed to make a thorough study of the matter and report at the next Annual Meeting of the Association in New Orleans in 1932.

Dr. Leland has conferred with the Chairman of the Civic and Industrial Relations Committee and is making every effort to begin an immediate and comprehensive study of the question. He has obtained from the Michigan State Medical Society data and information which have been collected to date.

Refer to the June 20 issue of the American Medical Association Journal under "Proceedings of the Philadelphia Session, House of Delegates," pages

2109 to 2129, for futher information. Until the American Medical Association has acted upon the question, the Michigan resolutions remain in force, as far as State Society members are concerned.

HARRISON S. COLLISI, M.D., *Chairman.*

POST GRADUATE CONFERENCE

A post graduate conference of the Michigan State Medical Society and the Department of Post Graduate Medicine of the University of Michigan was held at the Wigwam, Dowagiac, Michigan, Thursday, June 25, 1931. The program included the following papers:

Prophylaxis and Care of Communicable Diseases, with special reference to Scarlet Fever, Diphtheria, and Meningitis—Dr. John E. Gordon, Detroit.

Essentials in the Diagnosis of Pulmonary Disease —Dr. Stuart Pritchard, Battle Creek.

Traumatic Surgery, with Special Reference to Skull and Spinal Inuries—Dr. W. J. Cassidy, Detroit.

COUNTY SOCIETIES

MECOSTA COUNTY

The last regular meeting of the Mecosta County Medical Society was held Tuesday evening, June 9, 1931, at the residence of Dr. C. L. Soper, Barryton, Michigan.

Those present were Drs. MacIntyre, Dodge, Treynor, Yeo, Grieve, Campbell, Franklin, Soper, Stibal, Kelsey, Rondeau (Sherman City), Peck and Burkart. Dentists, Shank and Miller of Big Rapids.

Dinner was served at 6:45 P. M. The meeting was called to order by President MacIntyre at 8:00 P. M. The minutes of the last regular meeting were read and approved. The meeting was then turned over to the Program Committee. Dr. Yeo, chairman, introduced Dr. W. J. Butler of Grand Rapids, Michigan, who gave a very interesting talk amplified with lantern slides, on the subject, "The Office Treatment of Genito-Urinary Affections." The paper was discussed by Drs. Grieve, Treynor, Franklin, and Kelsey.

Dr. Campbell suggested that a change of meetings from the second Tuesday in each month might give members of Montcalm Society an opportunity to attend our meetings. On motion the question was deferred until the next regular meeting.

On motion, a committee consisting of Drs. Franklin, Treynor, and Grieve was appointed to investigate the maternal mortality rate in Mecosta and Osceola counties, in accordance with a request of Dr. C. C. Slemons, State Commissioner of Health, Lansing, Michigan, made under date of March 25, 1931.

Drs. Kelsey and Yeo moved that a rising vote of thanks be tendered the speaker and the host of the evening, Dr. W. J. Butler and Dr. C. L. Soper. Carried.

The meeting adourned to convene the second Tuesday in July at the Country Club, Big Rapids.

JNO. L. BURKART, *Secretary.*

WAYNE COUNTY

Dr. H. W. Plaggemeyer, president of the Wayne County Medical Society, was host to a group of twenty representative members of the organization, including the presidents of all the branch societies, in the Society's club rooms for the purpose of conferring on the appointment of chairmen and committeemen for all of the thirty-seven boards and committees of the Society. Five past presidents of the Society were at this meeting. The committees have become so numerous and their work so diversified that the president requested advice from those well constituted by experience to understand the problems of every field of endeavor. Approximately 300 will be placed on the Society's committees this year.

The Bulletin of the Wayne County Medical Society has been publishing each week lists of new interne appointments in the various Detroit and Wayne County hospitals as well as information on the present location of last year's internes and residents. This interesting information appears in the "Hospital News" column of The Bulletin.

The annual reports of all the committees and boards of the Wayne County Medical Society were presented to The Council of the Society on July 20 and will be published from week to week in The Bulletin. The reports show that a remarkable amount of work was done by these committees, resulting in definite progress for the Wayne County Medical Society during the past year.

To date some thirty medical talks have been presented by the Public Education Committee of the Wayne County Medical Society over Radio Station WEXL, Royal Oak. These talks are given Tuesdays, Thursdays and Fridays, 10:30 to 10:45 A. M. The wave length of WEXL is 1310.

Nineteen hundred and ninety-two luncheons were served in the Cafe of the Wayne County Medical Society during the twenty-six working days of June, 1931. In addition, forty-five dinners were served upon special reservation. The average charge for luncheon per person was 44.8 cents. The total income for the Cafe in June amounted to $1,075.35. The House Committee has so efficiently handled the Cafe during the past year that it was re-appointed in toto by the Board of Trustees. The House Committee is composed of: Dr. Wm. Fowler, Chairman, Dr. Sarah Schooten, Dr. L. T. Henderson, Dr. Howard Havers and Dr. J. E. Watson.

The Roof Garden of the Society is enjoying great popularity during the present hot weather. Detroit and Wayne County physicians are enjoying this spot which is eleven floors above the hot pavement where refreshing breezes are captured and delectable food is served in a garden atmosphere. Members of the Michigan State Medical Society who visit Detroit are cordially invited to take luncheon on the Roof Garden of the Wayne County Medical Society, 1124 Maccabees Bldg., Detroit, on the Art Center.

The Second Annual Golf Tournament of the Wayne County Medical Society will be held at Hawthorne Valley County Club, Warren Avenue, Wednesday, September 16, 1931. Dr. R. C. Jamieson, Chairman of the Golf Committee, anticipates that some 300 members of the Society will attend this party, which is looked forward to from year to year by the golfing doctors.

The mail in the Executive Office during June amounted to 2,054 pieces, of which 851 were incoming and 1,203 were outgoing.

Dr. C. G. Jennings, the oldest graduate of the Detroit College of Medicine and Surgery, was honored

by being elected as Honorary President of the Medical Alumni Association at its Sixty-First Annual Reunion, Thursday, June 18. Dr. Jennings received his diploma with the class of 1879, which was ten years after the school was founded.

Dr. L. J. Hirschman has been re-appointed to the State Advisory Board of Health for another five year term by Governor Brucker.

Dr. Donald M. Campbell was recently honored by receiving the degree of Doctor of Science from the College of the City of Detroit at the annual graduation exercises.

Mr. Mac Cahal, newly appointed executive secretary of the Sedgewick County Medical Society, Wichita, Kansas, visited the Executive Offices of the Wayne County Medical Society for three days of "observation" during the past month.

Dr. V. E. Gram, President of the Larimer County Medical Society, Fort Collins, Colorado, has written to the Wayne County Medical Society inquiring about the work of its Public Education Committee. Dr. J. D. Dunshee, Health Officer of Pasadena, California, has written, inquiring about the work of the Public Health Committee and its plan of periodic health inventoriums which the Committee will announce in the early Autumn.

THE DOCTOR'S LIBRARY

March's Thesaurus Dictionary; a treasure house of words and knowledge; prepared under the supervision of Francis Andrew March, LL.D., L.H.D., D.C.L., Litt.D., one time professor of English and comparative philology at Lafayette College, and Francis A. March, Jr., A.M., Ph.D., assistant in English, Cornell University (1885); with amplified appendix completely indexed; pages 1,284 plus 202; substantially bound in green buckram. Illustrated. The Historical Publishing Company, Philadelphia, Pa., 1930.

Francis A. March, the author of March's Thesaurus Dictionary, was born in 1825 and died in 1911. He became associated with Lafayette College in 1855 and two years afterwards became Professor of English language and later of comparative philology, a position which he held until his retirement in 1907. His magnum opus was this monumental treasure house of words. March's Thesaurus resembles in a way such well known works as Gray's Anatomy or Webster's Dictionary, to the extent that each is the work of an outstanding scholar. The form and idea of the original work, while remaining unchanged, has been preserved and amplified by subsequent revision so as to keep it abreast of the times. March's Thesaurus Dictionary contains over 200,000 words conveniently indexed and grouped. We might also say that the volume is thumb-indexed, which makes for still further convenience. This book is invaluable to any author or to those who have regard for accurate and forceful speech. We would particularly emphasize its value as an aid to the composition of medical papers, in which the difficulty is not so much with technical words as in obtaining the best possible English word to express the desired shade of meaning. March's Thesaurus presents a rich variety of synonyms from which to select. We strongly recommend this work as a desk companion not only to the medical editor but to the medical author. There is no other profession more prolific than medicine in ideas which find their way into the printed page, whether magazine article or book.

The present edition of March's Thesaurus contains more subject matter than its predecessors in a smaller volume, owing to the fact that it is printed on a thinner though a fine quality of opaque paper. The convenient size, coupled with the ideal indexing feature, together with the simple directions suggested for its use, makes it a splendid reference volume.

RECENT ADVANCES IN THE STUDY OF THE PSYCHONEUROSES. By Millais Culpin, M.D. (London), F.R.C.S. (England). Lecturer in Psychoneuroses at the London Hospital Medical College, and in Medico-Industrial Psychology at the London School of Hygiene and Tropical Medicine. With 4 illustrations. Philadelphia, Pa. P. Blakiston's Son & Co., Inc. (1931). Price $3.50.

This book belongs to the excellent series of volumes dealing with recent advances in the various departments of medicine and surgery and allied subjects which have been reviewed in this department from time to time. Among the subjects here treated by the author are an historical review; The Present Position of Psychoanalysis, Occupational Neuroses, Psychoneuroses in Industry, Individual and Analytical Psychology, The Psychopathology of Childhood. The work is non-technical for the general practitioner and the industrial physician. In other words it will appeal to a wider clientele than the psychiatrist and neurologist. It will be read with profit by the student of mental hygiene.

THE INFANT WELFARE MOVEMENT IN THE EIGHTEENTH CENTURY. By Ernest Caulfield, M.S., M.D. With 8 illustrations. Paul B. Hoeber, Inc. New York. Price $2.00.

This is a unique contribution to the history of medicine as well as to the social history of eighteenth century England. The author presents a well documented account of the sanitation of the century as well as the enormous infant mortality and the decadence of morals that characterized the period. An interesting account of Thomas Coran (1668-1751), the founder of the first foundling hospital, is given. His was the first attempt to deal with the infant poor on a large scale. Coran who had seen extensive service as a sea captain, retired from the sea in 1719 and devoted the remainder of his [illegible] humanitarian projects. Coran's appeal for [illegible] servation of the lives of unfortunate infants was to the upper class women of the time. Not only is this an important contribution to the history of pediatrics, but it will be found of interest to a large class of general readers. The printing and the format of the work are in keeping with Hoeber's well known monographs on medical historical subjects.

BACKACHE. By James Mennell, M.A., M.D., B.C. (Cantab.), Medical Officer, Physico-Therapeutic Department, St. Thomas's Hospital. Illustrated by Margaret Morris. Philadelphia. P. Blakiston's Son & Co., Inc. 1012 Walnut St. 1931.

This monograph of about two hundred pages is based on the author's eleven years experience in the diagnosis and treatment of the various causes of backache. Certain lines of thought have been suggested by other authorities but the conclusions are based entirely on the author's personal experience. His interest in the subject was first aroused by his association with Dr. Joel E. Goldthwaite of Boston, during the world war. Much space is given to the methods of examination of the back. Only the more simple of the various manipulative technics are described. The methods of examination and the technic of the various manipulations are illustrated by simple line drawings which are very effective. The treatment is dealt with in an elementary manner, but covers the ground well and offers an excellent foundation upon which to build. This book is not burdened with references and theory. It is written in a direct, simple style and is very easy to read. It should be greatly appreciated by the general practitioner and would also be of benefit to most of the specialists.